STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
P.O. BOX 2000
SACRAMENTO, CA 95812-2000

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

I. BACKGROUND

PROJECT TITLE: Teixeira — APPLICATION: 30978
Application to Appropriate Water

APPLICANT: Estate of Frank Teixeira
Care of KaraLee Teixeria, Administrator
1035 Stage Gulch Road
Petaluma, CA 94954

APPLICANT'S CONTACT PERSON: Paula Whealen
Wagner & Bonsignore
444 North Third Street, Suite 325
Sacramento, CA 95811

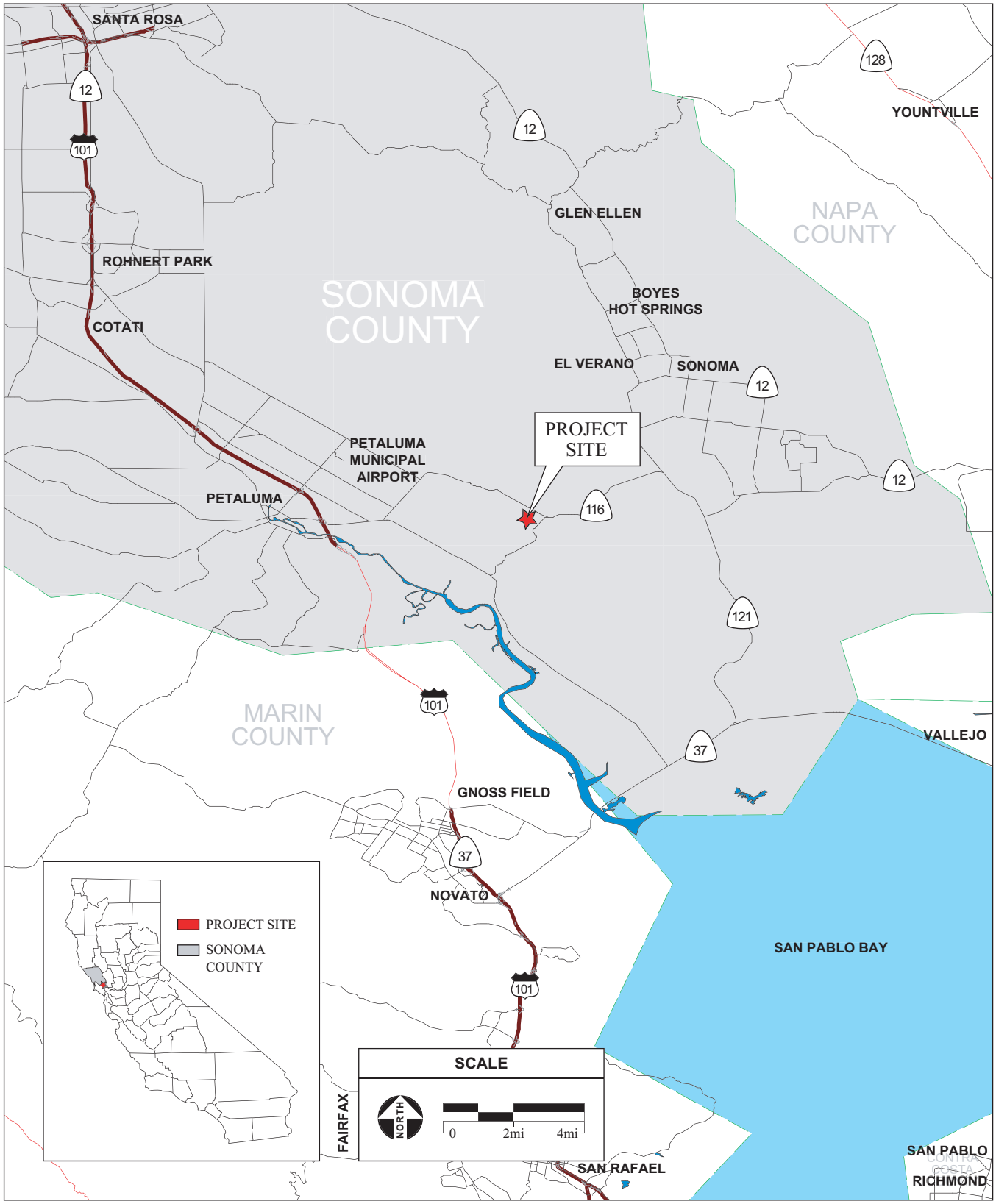
GENERAL PLAN DESIGNATION: Land Extensive Agriculture

ZONING: Land Extensive Agriculture

Introduction

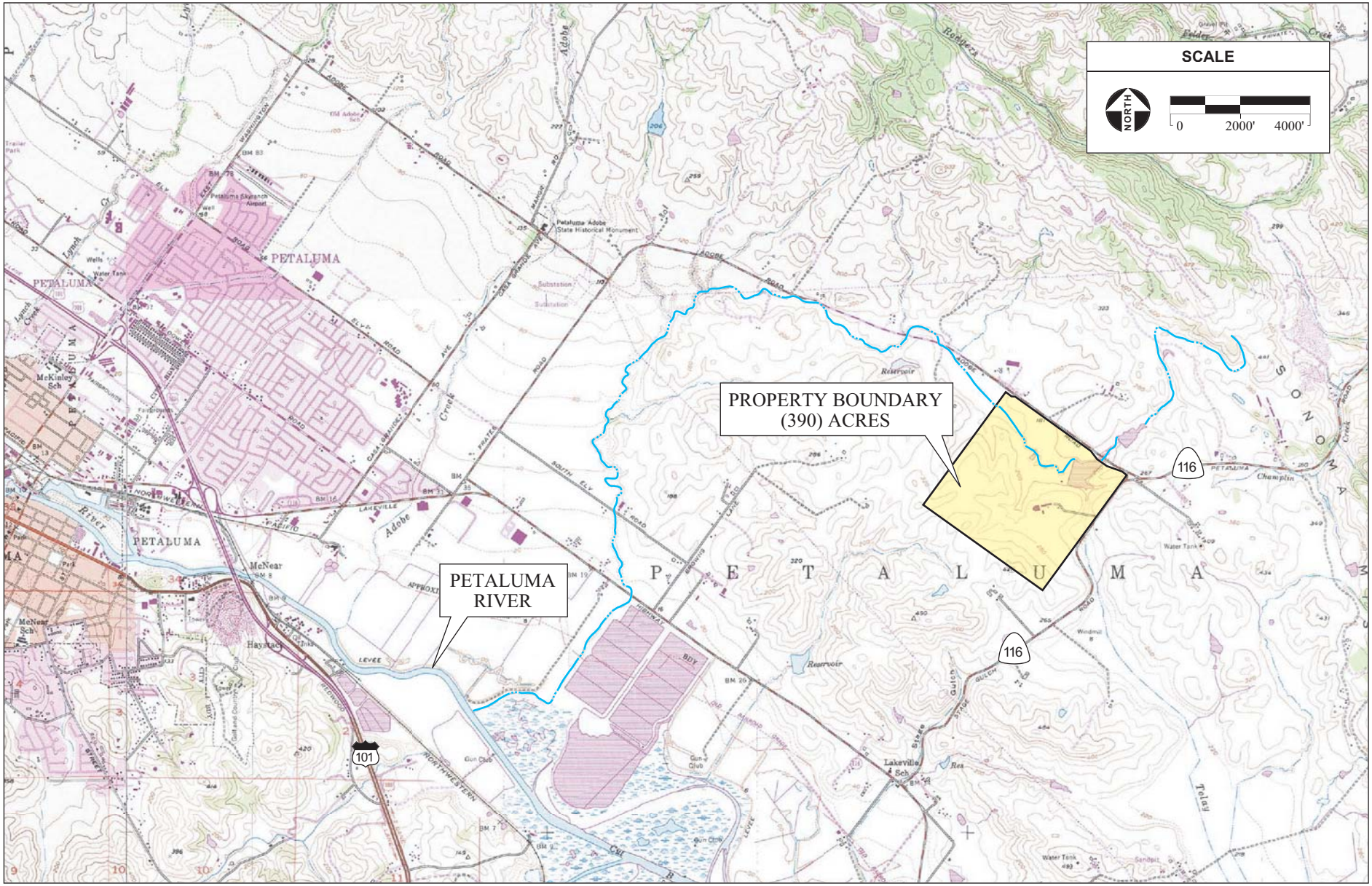
The project is located approximately six miles east of Petaluma in Sonoma County, California (**Figure 1**). The site is within an unsectioned area of "Petaluma River, California" Township 5N, Range 6W of the U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle (**Figure 2**).

Application 30978 was filed with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) on October 14, 1999[1]. The application seeks to appropriate a total of 164 acre-feet (af) of water per year, in combination with existing Licenses 7228 (Application 18476 [A018476]) and 8283 (Application 21284 [A021284]) for storage in an existing 84 af capacity reservoir, Pinheiro Reservoir. Currently 87 af of water is licensed for storage in the Pinheiro Reservoir.



SOURCE: ESRI Data, 2001 ; AES, 2004

Figure 1
Regional Location Map



SOURCE: "Petaluma River, CA" USGS 7.5 Minute Topographic Quadrangle, Un-Sectioned area of "Petaluma", Township 5N, Range 6W, Mt. Diablo Baseline and Meridian ; AES, 2004

Figure 2
Site and Vicinity Map

Project Description

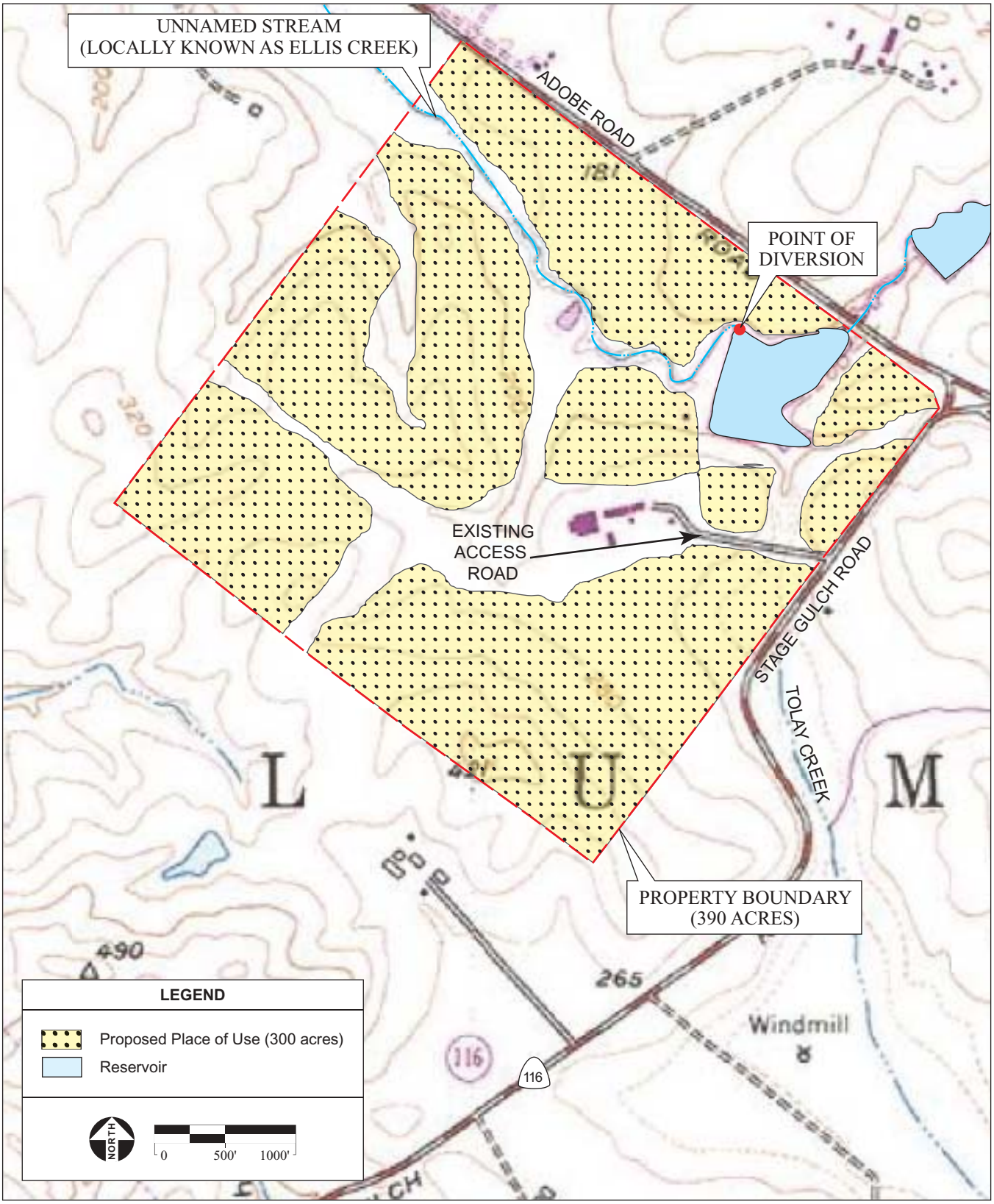
Application 30978 seeks to appropriate a total of 164 af of water per year under Application 30978 for storage in Pinheiro Reservoir; the total amount of water sought by Application 30978 and existing Licenses 7228 and 8283 would not exceed 164 af of water per year. Water collected to storage would be used for stockwatering up to 1,000 head of dairy cattle and, depending on economic conditions, for irrigation and frost protection of up to 300 acres of proposed vineyard. The vineyard has not been developed. Point of Diversion (POD) 1 is located at the dam of the existing Pinheiro Reservoir, which is located on an Unnamed Stream (locally known as Ellis Creek) tributary to the Petaluma River thence the San Pablo Bay. Under any water right permit or license issued pursuant to Application 30978, water would be diverted to storage from December 15 to March 31 of the following year and the February median flow, 0.33 cubic feet per second (cfs), would be bypassed.

The Applicant proposes to increase the storage capacity of Pinheiro Reservoir from its current capacity of 84 af to 164 af by modifying the spillway with a four-foot flashboard dam. The development of the proposed 300-acre vineyard would involve the clearing of grassland and limited grading for the installation of a drip irrigation system.

The proposed place of use (POU) is described in **Table 1** and shown in **Figure 3.**

TABLE 1 - PROPOSED PLACE OF USE[2]

Use is Within	Section	Township	Range	B. & M.	Acres	Previously Cultivated
SE ¼ of NW ¼	32	5N	6W	M.D.	5	No
NE ¼ of NE ¼	32	5N	6W	M.D.	35	No
NW ¼ of NE ¼	32	5N	6W	M.D.	14	No
SW ¼ of NE ¼	32	5N	6W	M.D.	36	No
SE ¼ of NE ¼	32	5N	6W	M.D.	30	No
NE ¼ of SE ¼	32	5N	6W	M.D.	35	No
NW ¼ of SE ¼	32	5N	6W	M.D.	20	No
SE ¼ of SE ¼	32	5N	6W	M.D.	8	No
NE ¼ of NW ¼	33	5N	6W	M.D.	4	No
NW ¼ of NW ¼	33	5N	6W	M.D.	30	No
SW ¼ of NW ¼	33	5N	6W	M.D.	15	No
SE ¼ of NW ¼	33	5N	6W	M.D.	20	No
NE ¼ of SW ¼	33	5N	6W	M.D.	3	No
NW ¼ of SW ¼	33	5N	6W	M.D.	35	No
SW ¼ of SW ¼	33	5N	6W	M.D.	10	No
				TOTAL	300 Acres	



SOURCE: "Petaluma River, CA" USGS 7.5 Minute Topographic Quadrangle,
Un-Sectioned area of "Petaluma", Township 5N, Range 6W,
Mt. Diablo Baseline and Meridian ; AES, 2004

Figure 3
Proposed Place of Use

The location of POD 1 is as follows:

> Point of Diversion by Collection to Storage in Pinheiro Reservoir: Located N. 208,200 and E. 1,847,500, California Coordinate System, Zone 2. Being within the SW ¼ of the NW ¼ of projected Section 33, Township 5N, Range 6W, MDB&M.

According to Water Code Section 1348, a minor project diverts less than or equal to 3 cfs by direct diversion or 200 af per year by storage. A major project diverts greater than 3 cfs by direct diversion or 200 af per year by storage. This application is for a "minor" project (less than 200 af per year by storage) as defined by section 1348 of the Water Code.

Project Background

Public notice for Application 30978 was posted on September 15, 2000[3]. The Division issued a letter to the Applicant on May 30, 2000 requesting that the Applicant conduct a biological survey of the proposed POU and POD for sensitive animal species. These species included the California red-legged frog and the burrowing owl. The letter also requested that a cultural resource survey be conducted.

In a letter dated October 16, 2000, the United States Fish and Wildlife Service (USFWS) protested Application 30978. The USFWS letter stated that California freshwater shrimp and California red-legged frog are known to occur in the project area. The letter also stated that the protest could be dismissed if it could be determined that the proposed project would not result in take of federally listed species.

In a letter dated October 25, 2000, the National Marine Fisheries Service (NMFS) protested Application 30978. The NMFS letter stated that the Unnamed Stream on which the diversions would occur, which is part of the Petaluma River watershed, may support or contribute to sustaining populations of the Central California Coast Evolutionary Significant Unit of steelhead trout. This species is federally listed as threatened. The NMFS letter recommended that the proposed project be modified to include several mitigation provisions.

The Applicant's authorized agent, Wagner & Bonsignore, sent a letter to the Division on March 7, 2001, in response to the October 16, 2000 USFWS protest letter. The letter requested that the USFWS withdraw its protest. Attached to the letter was a biological report prepared by Fawcett Environmental Consulting that stated that neither the freshwater shrimp nor the California red-legged frog were found within the project area or downstream from the project area[4]. Analytical Environmental Services (AES) biologist, Dr. G.O. Graening, also mailed a letter to the USFWS on April 23, 2004 requesting a re-evaluation of the USFWS' findings of adverse effects to California freshwater shrimp and California red-legged frog based on the

findings of the focused surveys conducted by Fawcett Environmental Consulting and the conditions at the project site[5]. No response was received from the USFWS.

The California Department of Fish and Game (DFG) sent a letter to the Division on April 23, 2001 concurring with the Division's May 30, 2000 recommendation to conduct surveys for the California red-legged frog and burrowing owl. The DFG letter also recommended surveys for California tiger salamander and rare plants on the entire property.

On May 31, 2001, Wagner & Bonsignore sent a letter to the Division responding to the DFG request for a California tiger salamander survey. The letter noted that habitat and special-status species surveys that addressed the species identified in the protests were conducted by Fawcett Environmental Consulting and submitted to the Division on January 10, 2001. The letter included an addendum to the habitat and special-status species report that addressed the habitat potential for the California tiger salamander on the project property. The letter also noted a January 31, 2001 conversation with Division staff in which Wagner & Bonsignore was told that a rare plant survey was not required for the project. DFG staff Gene Cooley and Linda Hanson concurred that based on the current site conditions no botanical surveys would be necessary for this environmental review[6].

On March 9, 2004, NMFS sent a letter to the Division withdrawing its protest of Application 30978. Based on information gained during an August 2003 site visit and from the revised Water Availability Analysis (WAA) accepted by the Division on October 22, 2003, NMFS determined that the proposed project would not impact steelhead trout. In a letter dated April 26, 2004, the Division noted that the NMFS protest of Application 30978 was withdrawn.

In a letter dated June 14, 2004, the Applicant agreed to a shortened diversion season of December 15 to March 31 and February median bypass (0.33 cfs) for Application 30978; October 1 to May 31 was the diversion season originally requested on the application.

Currently, the property consists of partially irrigated pastureland with cattle grazing in connection with a dairy cattle operation. The pasture is partially irrigated with treated wastewater provided by the City of Petaluma. Wastewater is taken by direct diversion from the City of Petaluma's pipeline that borders the property and is metered at the point of delivery.

Pinheiro Reservoir, which was built in 1967, is under the jurisdiction of the Department of Water Resources, Division of Safety of Dams, as Dam #3429. The earthen dam has a height of 26 feet and a length of 723 feet, with a surface area of 11 acres. The reservoir was built pursuant to water right Licenses 7228 (A018476) and 8283 (A021284). License 7228 allows for storage of 42 af per year in Pinheiro Reservoir. Water can be collected from October 1 to March 30 for stockwatering purposes. License 8283 allows for storage of an additional 45 af of

water per year in Pinheiro Reservoir. Water can be collected from October 1 to May 1 for stockwatering and industrial (cattle operation) purposes.

Environmental Setting

The project is located in the southwestern portion of Sonoma County, off Lakeville Highway, east of U.S. Highway 101. Elevation in the project area ranges from approximately 200 to 320 feet above mean sea level. The climate of Sonoma County is characterized by moderate temperature and precipitation. Annual precipitation averages 20 to 40 inches, and the prevailing wind is from the south to southeast.

The project area lies within the Petaluma Planning Area of the Sonoma County General Plan and is zoned Land Extensive Agriculture District. The subject property is currently used to graze dairy cattle, which has supported a dairy operation on the property since the 1950s.

Characteristic vegetation communities occurring within the project site include annual grassland, with scattered willows and a grove of eucalyptus. In addition to the Pinheiro Reservoir, a small manure pond is located on the project site. This pond contains runoff from the dairy operation. Five streams occur within the project site: one intermittent stream, the main water feature that fills the existing reservoir which originates northeast of the project site; two small ephemeral tributaries to this stream occur in the western half of the project site; and two ephemeral streams drain local runoff into the southeast corner of the reservoir - one originates below the intersection of Adobe Road and Stage Gulch Road and the other originates from outside of the project area, but within the property, just north of the property access road.

As stated above, the Pinheiro Reservoir currently exists in its 84 af capacity. The proposed place of use has not yet been developed as vineyard, but it has historically been partially irrigated for pasture.

Responsible and Trustee Agencies

The State Water Board is the lead agency under the California Environmental Quality Act (CEQA) with the primary authority for project approval. In addition, the following responsible and trustee agencies may have jurisdiction over some or all of the proposed project:

- Sonoma County – Erosion and Sedimentation Control Plan approval and Grading Permit;
- California Department of Fish and Game – Streambed Alteration Agreement, California Endangered Species Act (CESA) compliance;

- California Regional Water Quality Control Board (San Francisco Bay Region) – Clean Water Act Section 401 Water Quality Certification, General Construction National Pollutant Discharge Elimination System (NPDES) Permit;
- U.S. Fish and Wildlife Service – Endangered Species Act Compliance;
- U.S. Army Corps of Engineers – Section 404 Permit; and
- Division of Safety of Dams – Approval for reservoir enlargement.

II. ENVIRONMENTAL IMPACTS

The environmental factors checked below could be potentially affected by this project. See the checklist on the following pages for more details.

☐	Land Use and Planning	☐	Transportation and Circulation	☐	Public Services
☐	Population and Housing	☑	Biological Resources	☑	Utilities and Service Systems
☑	Geology and Soils	☐	Mineral Resources	☐	Aesthetics
☑	Hydrology and Water Quality	☐	Hazards and Hazardous Materials	☑	Cultural Resources
☑	Air Quality	☐	Noise	☐	Recreation
☐	Agriculture Resources	☑	Mandatory Findings of Significance		

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☑	☐	☐
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☑	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Sonoma County is located within the California Coast Range geomorphic province. This province is a geologically complex and seismically active region characterized by sub-parallel northwest-trending faults, mountain ranges and valleys. Extensive prehistoric folding and thrust faulting have created the complex geologic conditions that underlie the highly varied topography.

According to the Sonoma County Soil Survey, soil in the project area includes Clear Lake Clay, two to five percent slopes, with slight erosion potential. Diablo Clay ranging from two to 30 percent slopes is also in the project area. This soil has slight to moderate erosion potential with two to nine percent slopes, moderate erosion potential with nine to 15 percent slopes, and moderate to high erosion potential with 15 to 30 percent slopes. The project area also contains Haire Clay Loam, zero to 15 percent slopes. This soil has slight to moderate erosion potential.

Gullied land, which consists of gently sloping to steep, rounded hills that have been severely damaged by gullying, can also be found in the project area[7].

Sonoma County faults are part of the San Andreas Fault system that extends along the California coast. Potentially active fault zones are located approximately two miles to the south of the property boundary and approximately one mile to the north of the property boundary. The project is located within an Alquist-Priolo Earthquake Fault Rupture Hazard Zone, with the fault located approximately 1.5 miles to the north of the property boundary[8].

The last major earthquake in Sonoma County was a 5.7 magnitude event on the Healdsburg fault in Santa Rosa in 1969. Analysis of seismic data indicates that 7.5 to 8.5 magnitude earthquakes can be expected for the San Andreas and the Healdsburg-Rodgers Creek faults, respectively. Earthquakes of magnitude 8.0 or more on the San Andreas Fault can be expected every 50 to 200 years[9].

Ground shaking from earthquakes can cause the most damage of any geologic hazard. The amount of ground shaking depends on the magnitude of the earthquake, the distance from the epicenter and the type of earth materials in between. Ground shaking similar to that which took place in Santa Rosa during the 1969 earthquake can be expected somewhere in Sonoma County once every 20 to 30 years[10].

Liquefaction and landslides can increase damage from ground shaking. Liquefaction changes water-saturated soil to a semi-liquid state, removing support from foundations and causing buildings to sink. The eastern boundary of the subject property, along Stage Gulch Road, is located in an area identified to have moderate to high potential for liquefaction. Landslides can result from ground shaking and may occur in areas of gentle slopes due to liquefaction of subsurface materials. The proposed project lies in an area designated as having moderate to high potential for landslides[11].

The proposed project would not involve the construction of structures or growth-inducing elements that could put people or structures at risk from earthquakes, liquefaction or landslides. No septic tanks or wastewater disposal systems are proposed as part of the project.

Due to the soil types present within the project area and soil-disturbing activities associated with construction, the proposed project could result in unstable soil conditions, potentially resulting in soil erosion or slope failure. This is a potentially significant impact.

The Sonoma County Permit Resource Management Department requires grading permits for projects that involve more than 50 cubic yards of fill on any lot or projects that include an excavation or fill that alters or obstructs a drainage course. Additionally, the Sonoma County

Agricultural Commission's Agricultural Division administers the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Ord. No. 5216 § 2, 2000) that was passed by the Board of Supervisors on February 8, 2000.

The purpose of the Ordinance is to safeguard public health, safety, and welfare; minimize erosion and sedimentation in connection with vineyard planting and replanting in the county, protect the lands, streams and riparian habitat in the county; and ensure the long-term economic viability of the County's viticultural resources.

Growers planting new vineyards or replanting existing vineyards are required to utilize recognized conservation practices, best management practices, and provide for riparian setbacks to protect the environment and watersheds of the County.

The proposed vineyard development is estimated to include Level II and/or Level III plantings. The Ordinance defines these as:

> Level II vineyard planting means any vineyard planting on contiguous new vineyard land under common ownership with a significant drainage area that has similar slope characteristics and has either highly erodible soils and an average slope of ten percent to not more than 15 percent, or less erodible soils and an average slope of 15 percent to not more than 30 percent.
>
> Level III vineyard planting means any vineyard planting on contiguous new vineyard land under common ownership within a significant drainage area that has similar slope characteristics and has either highly erodible soils and an average slope of more than 15 percent to not more than 50 percent, or less erodible soils and an average slope of more than 30 percent to not more than 50 percent.

No person shall undertake a vineyard planting on any new vineyard land having a slope of more than 50 percent, except where the new vineyard land having a slope of more than 50 percent is situated in the interior of the vineyard site, the totality of the new vineyard land having a percentage slope of more than 50 percent comprises no more than seven and one-half percent of the vineyard site, and the vineyard planting otherwise qualifies as an authorized vineyard planting.

General requirements for authorized vineyard plantings include:

> Any person undertaking a Level II or III vineyard planting shall obtain a certified erosion and sediment control plan for the vineyard planting, notify the agricultural commission of the vineyard planting and request that the agricultural commissioner review the vineyard

planting and the certified erosion and sediment control plan for the vineyard planting as required under the Ordinance, and undertake the vineyard planting in accordance with the requirements of the Ordinance and the certified erosion and sediment control plan for the vineyard planting. The vineyard planting shall establish and maintain a riparian setback for any designated stream on the vineyard site of either fifty feet from the top of the bank, or, if applicable, the distance specified in the Riparian Corridors section (26-66-030), whichever is greater.

The following permit terms, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978 to prevent soil erosion or slope failure:

- *Prior to the start of construction or diversion or use of water under this permit, Permittee shall file a notice of vineyard planting or replanting with the Sonoma County agricultural commissioner. The notice shall conform to applicable provisions of the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Ord. No. 5216 §§ 2, 2000). The notice shall include: 1) maps, plans, drawings, calculations, photographs, and other information as may be necessary or required by the agricultural commissioner to verify that the vineyard planting qualifies as a Level II or III authorized vineyard planting, or that the vineyard replanting qualifies as a Level II authorized vineyard replanting; and (2) an erosion and sediment control plan, certified pursuant to Section 30-74 of the Sonoma County Vineyard Erosion and Sediment Control Ordinance, for the vineyard planting or replanting. Prior to the start of construction or diversion or use of water under this permit, Permittee shall submit evidence to the Chief of the Division of Water Rights verifying that the Sonoma County agricultural commissioner has authorized the vineyard planting or replanting to proceed.*

- *Prior to licensing of this permit, Permittee shall submit evidence to the Chief of the Division of Water Rights verifying that the project was constructed in compliance with the requirements of the certified erosion and sediment control plan and the Sonoma County Vineyard Erosion and Sediment Control Ordinance.*

- *Prior to construction, diversion, or use of water under this permit Permittee shall obtain any required grading permits from Sonoma County.*

Compliance with the measures incorporated within an Erosion and Sedimentation Control Plans[12] as required by Sonoma County and compliance with conditions of the Sonoma County Grading Permit and the requirements of the Sonoma County Vineyard and Sediment Control Ordinance, would reduce potential impacts to a less than significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Air Quality. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☑	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐

The proposed project is located within the San Francisco Bay Area Air Basin, falling under the jurisdiction of the San Francisco Bay Area Air Quality Management District. The climate of the region is Mediterranean in character, with mild, rainy winter weather from November through April, and warm to hot, sub-humid weather from May through October. The San Francisco Bay Air Basin is generally affected by regionally high pollution emissions.

Air quality in the area is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

Criteria Pollutants

Ozone (O_3)

O_3 is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere. Through a complex series of photochemical reactions, in the presence of strong sunlight and O_3 precursors (nitrogen oxides [NO_x] and reactive organic gases [ROG]), O_3 is created. Motor vehicles are a major source of O_3 precursors. O_3 causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease.

Carbon Monoxide (CO)
CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances and is primarily a winter pollution problem. CO concentrations are influenced by the spatial and temporal distributions of vehicular traffic, wind speed, and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream, thereby aggravating cardiovascular disease and causing fatigue, headaches, and dizziness.

Respirable Particulate Matter (PM_{10})
PM_{10} consists of particulate matter ten microns (one micron is one one-millionth of a meter) or less in diameter, which can be inhaled. Relatively small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorine or ammonia) that may be injurious to health. Primary sources of PM_{10} emissions in Sonoma County are entrained road dust and construction and demolition activities. Burning of wood in residential wood stoves and fireplaces and open agricultural burning are other sources of PM_{10}. The amount of particulate matter and PM_{10} generated is dependent on the soil type and the soil moisture content.

Regulation of air quality is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants.

Federal

The 1977 Federal Clean Air Act (CAA) required the United States Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for the six "criteria" air pollutants, O_3, CO, NO_x, sulfur dioxide (SO_x), PM_{10}, and lead. The EPA publishes standards for these pollutants, listed in **Table 2**.

Pursuant to the 1990 CAA Amendments, the EPA has classified air basins (or portions thereof) as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Southern Sonoma County, located in the San Francisco Bay Area Air Basin, is designated as nonattainment for O_3 and either attainment or unclassified for CO, NO_x, SO_x, and PM_{10}[13].

Table 2 - STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS[14]

Pollutant	Averaging Time	SAAQS	NAAQS
Ozone	1 hour	0.09 ppm	0.12 ppm
Carbon Monoxide	1 hour 8 hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm
Nitrogen Dioxide	1 hour Annual	0.25 ppm N/A	N/A 0.053 ppm
Sulfur Dioxide	1 hour 3 hour 24 hour Annual	0.25 ppm N/A 0.04 ppm N/A	N/A 0.5 ppm 0.14 ppm 0.03 ppm
Respirable Particulate Matter	24 hour Annual	50 $\mu g/m^3$ 20 $\mu g/m^3$	150 $\mu g/m^3$ 50 $\mu g/m^3$
Lead	30 day Calendar Quarter	1.5 $\mu g/m^3$ N/A	N/A 1.5 $\mu g/m^3$

SAAQS (i.e., California standards) for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.
NAAQS (i.e., national standards), other than ozone, particulate matter and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.
ppm = parts per million by volume; $\mu g/m^3$ = micrograms per cubic meter of air.
N/A: Not Applicable.

State

The California Air Resources Board regulates mobile emissions sources and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. The California Air Resources Board regulates local air quality indirectly by State Ambient Air Quality Standards (SAAQS) and vehicle emission standards by conducting research activities, and through planning and coordinating activities.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These standards are shown in **Table 2**. Under the California Clean Air Act, patterned after the Federal CAA, areas have been designated as attainment or non-attainment with respect to SAAQS. The San Francisco Bay Area Air Basin is designated as nonattainment for PM_{10} and O_3, attainment for CO, and attainment or unclassified for NO_x, SO_x, and lead[15].

Existing Air Quality Conditions

The California Air Resources Board maintains several ambient air quality monitoring stations within the San Francisco Bay Area Air Quality Management District that provide information on the average concentrations of criteria air pollutants in the region. The Santa Rosa – 5th Street

monitoring station is located in closest proximity to the project area. However, it should be noted that the monitoring station is located in an urban area while the project site is located in a rural area. **Table 3** summarizes ambient air quality monitoring data from this location and compares ambient air pollutant concentrations of O_3, CO, and PM_{10} to SAAQS and NAAQS.

TABLE 3 - AMBIENT AIR QUALITY MONITORING DATA[16]

Pollutant	1999	2000	2001	2002
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	0.095	0.078	0.086	.077
Number of days Standard exceeded				
SAAQS (1-hour) > 0.09 ppm	1	0	0	0
NAAQS (1-hour) > 0.12 ppm	0	0	0	0
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	3.44	3.05	2.40	2.10
Number of days Standard exceeded				
SAAQS (8-hour) ≥ 9.0 ppm	0	0	0	0
NAAQS (8-hour) ≥ 9.0 ppm	0	0	0	0
Particulate Matter (PM_{10})				
Maximum 24-hour concentration (µg/m^3)	54	46	74	60
Number of days Standard exceeded				
SAAQS (24-hour) > 50 µg/m^3	0	0	12	12
NAAQS (24-hour) > 150 µg/m^3	0	0	0	0

NOTES: Data is from the Santa Rosa-5th Street monitoring station
ppm = parts per million
µg/m^3 = micrograms per cubic meter

The San Francisco Bay Area Air Quality Management District has prepared guidelines for assessing the air quality impacts of proposed projects[17]. The San Francisco Bay Area Air Quality Management District approach to assessment of construction-related air quality impacts is to emphasize the implementation of effective and comprehensive control measures rather than provide detailed quantification of emissions[18].

Potentially significant air quality impacts associated with the proposed project are limited to those resulting from short-term construction activities. Construction-related emissions could include exhaust from construction equipment and fugitive dust from land clearing, earthmoving, movement of vehicles, and wind erosion of exposed soil during expansion of the existing reservoir or development of the proposed vineyard. In order to minimize potential air quality impacts a dust control plan will be developed and implemented for the proposed project. At a minimum, the plan should include, but not be limited to the following measures:

1. Active construction areas shall be watered at least twice daily; all trucks hauling soil, sand, or other loose material shall be covered or required to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer);

2. Exposed stockpiles shall be covered or watered twice daily;
3. All construction vehicles and equipment shall be properly maintained and operated, and the use of construction equipment that meets the current emission standards for diesel engine-powered equipment shall be required; and
4. Traffic speeds on unpaved access roads shall be limited to 15 miles per hour.

To protect air quality, a permit term, substantially as follows, will be included in any water right permit or license issued pursuant to Application 30978:

- *Permittee shall submit a detailed Dust Control and Mitigation Plan for review and approval by the San Francisco Bay Air Quality Management District. Prior to the start of construction or diversion or use of water under this permit, Permittee shall submit evidence to the Chief of the Division of Water Rights showing that San Francisco Bay Air Quality Management District has approved the Permittee's Dust Control and Mitigation Plan.*

Implementation of the above permit term would reduce potential impacts to a less than significant level.

Routine compliance with permit regulations from the Agricultural Commissioner's Office for the use of soil stabilizers, pesticides, herbicides, and other regulated chemicals renders exposure of sensitive receptors to pollutants a less than significant impact.

Continued operation of the dairy and application of agricultural chemicals during vineyard operation has the potential to result in objectionable odors. Compliance with requirements of the Sonoma County Agricultural Commissioner would minimize nuisance odors to a less than significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☑	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would:				
i)result in flooding on or off site?	☐	☐	☑	☐
ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge?	☐	☐	☑	☐
iii) provide substantial additional sources of polluted runoff?	☐	☑	☐	☐
iv) result in substantial erosion or siltation on or off site?	☐	☑	☐	☐
d) Otherwise substantially degrade water quality?	☐	☐	☑	☐
e) Place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑	☐
f) Expose people or structures to a significant risk of loss, injury, or death involving flooding:				
i)as a result of the failure of a dam or levee?	☐	☑	☐	☐
ii) from inundation by seiche, tsunami, or mudflow?	☐	☐	☑	☐
g) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in:				
i)a significant cumulative reduction in the water supply downstream of the diversion?	☐	☐	☑	☐
ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?	☐	☐	☑	☐
iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?	☐	☑	☐	☐
iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?	☐	☑	☐	☐
v) a substantial increase or threat from invasive, non-native plants and wildlife	☐	☐	☑	☐

The proposed project involves increasing the capacity of Pinheiro Reservoir from 84 af as approved by the Division of Dam Safety in 1967, to 164 af. This increase would be achieved by modifying the spillway with a four-foot flashboard dam. The two existing licenses that authorize

storage of 87 af of water in the reservoir would not be cancelled. Application 30978 seeks to appropriate a total of 164 af of water per year under Application 30978 and existing Licenses 7228 and 8283 for storage in Pinheiro Reservoir. Water would be diverted under Application 30978 from December 15 through March 31 for stockwatering, irrigation and frost protection purposes.

The pasture is currently partially irrigated with treated wastewater provided by the City of Petaluma. The surface water is sought to provide a reliable supply of water for the long-term needs of the project. There is no certainty associated with the continued availability of the treated wastewater source. There could also be times in the future when the quality of the wastewater requires that it be mixed with fresh water prior to use.

The proposed project could result in impacts to water quality resulting from erosion due to vegetation removal and earthmoving activities associated with the enlargement of the reservoir and the establishment of the proposed vineyard.

In addition to the permit terms specified in the Geology and Soils section above, the following permit terms, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978 to protect water quality:

- *Permittee shall prevent any debris, soil, silt, cement that has not set, oil, or other such foreign substance from entering into or being placed where it may be washed by rainfall runoff into the waters of the State.*

- *Construction activities within 100 feet of any drainage shall only occur between May 15 and October 31 to minimize the potential for rainfall events to mobilize and transport sediment to aquatic resources.*

- *In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction, Permittee shall file a report pursuant to Water Code section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, San Francisco Bay Region, or by the State Water Resources Control Board.*

Compliance with the permit terms above would reduce potential water quality impacts to a less than significant level.

The proposed project would not involve an increase in use of groundwater, and the additional diversion and expansion of Pinheiro Reservoir would not alter the course of the Unnamed Stream from which the diversion would occur. The proposed project would not alter the overall drainage pattern of the area. No substantial additional sources of polluted runoff are expected.

The proposed project would not result in the development of housing within a 100-year flood zone.

The existing reservoir would have the potential to impede flood flows; however, the water storage capacity provided by the reservoir would decrease the downstream flood hazard potential during a flood event.

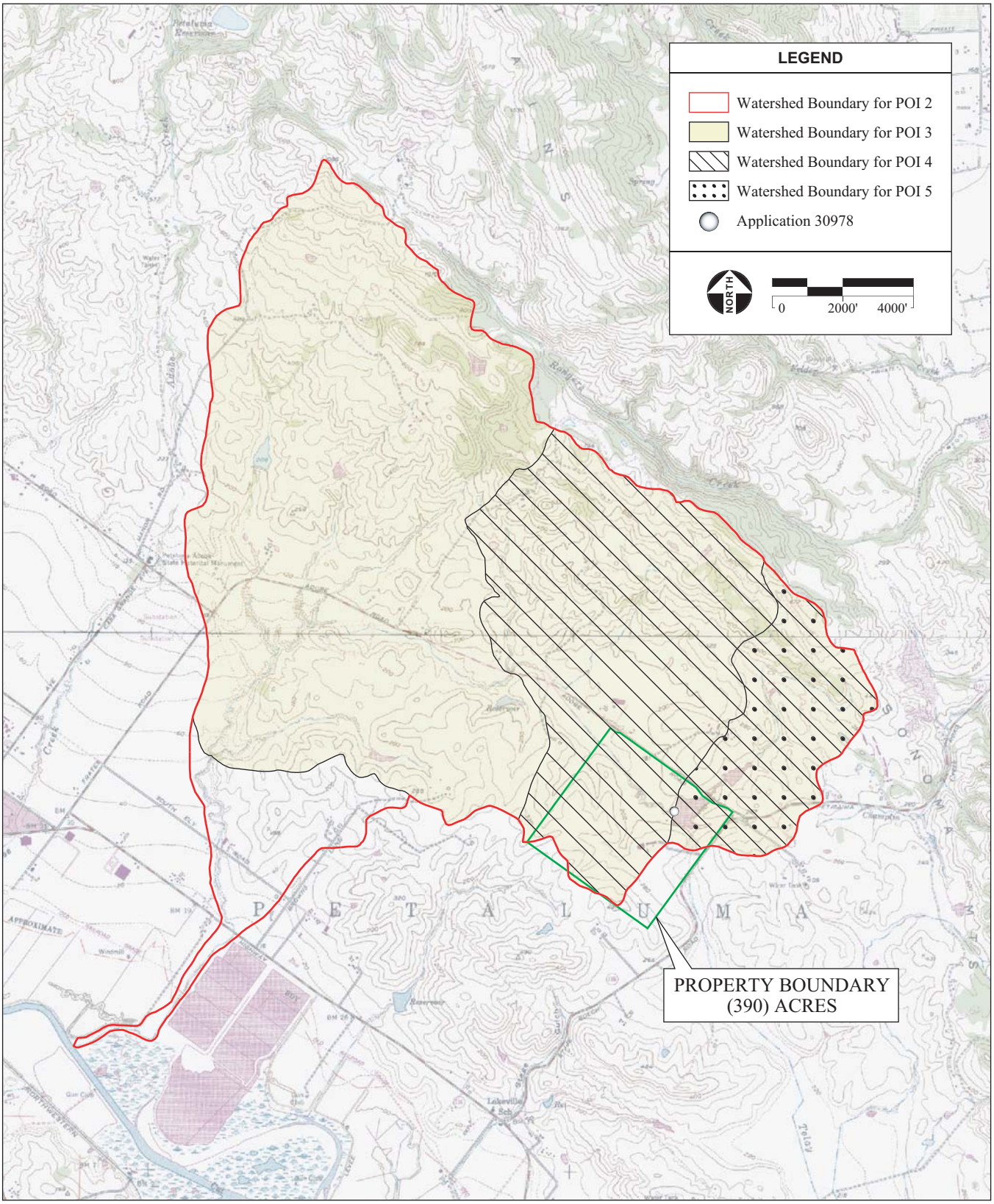
The enlargement of the Pinheiro Reservoir would require the Division of Safety of Dams' approval of plans and specifications prepared by a registered civil engineer. Due to the size of the onstream reservoir, failure of the dam could potentially result in localized flooding within or near existing drainage channels, but is not expected to result in significant risk of loss to people or structures. To ensure that future enlargement of the reservoir is conducted in a manner that will protect public safety, the following permit term, substantially as follows, will be included in any water right permit or license issued pursuant to Application 30978:

- *If the storage dam will be of such size as to be within the jurisdiction of the California Department of Water Resources as to safety, construction under this permit shall not be commenced until the Department has approved the plans and specifications for the dam.*

The proposed project would not result in any inundation due to a tsunami or a seiche because the project area is not located within a potentially affected coastal area, or located near a large body of water. The proposed project is located in an area designated in the Sonoma County General Plan as having moderate to high potential for landslides. The permit term discussed in the Geology and Soils section above reduces potential impacts to a less than significant level.

The Division staff prepared a WAA dated September 27, 2001. Since 2001, the Division has set forth new guidelines for determining the water availability. Wagner & Bonsignore Consulting Civil Engineers revised the WAA for the project and submitted the analysis to the Division on August 28, 2003. In response to Division comments, the WAA was revised and resubmitted to the Division on September 26, 2003. The Division accepted the WAA on October 22, 2003[19]. An amendment to the WAA dated July 27, 2004 calculated the February median flow for Application 30978[20]. The following section is a summary of the information contained within the studies.

The Division staff letter identified the following five Points of Interest (POIs) for the proposed project: POI 1 located immediately above the mouth of the Petaluma River at San Pablo Bay; POI 2 located on the Unnamed Stream immediately above the confluence with the Petaluma River; POIs 3 and 4 located on the Unnamed Stream immediately below confluences with other Unnamed Streams at locations upstream of POI 2; and POI 5 located immediately below the Pinheiro Dam. **Figure 4** illustrates the watershed boundaries for the POIs. Based on discussions with Dr. William Hearn of NMFS and Linda Hanson of the DFG at a site visit on



SOURCE: "Petaluma River, CA" USGS 7.5 Minute Topographic Quadrangle,
Un-Sectioned area of "Petaluma", Township 5N, Range 6W,
Mt. Diablo Baseline and Meridian ; AES, 2004

Figure 4
Watershed Areas

August 25, 2003, it was agreed that it would not be necessary to evaluate the water availability at POI 1 because it was within the tidal zone.

Table 4 summarizes the estimated mean annual precipitation and drainage areas for the POI watersheds.

TABLE 4 - PRECIPITATION AND DRAINAGE AREAS[21]

POI #	Average Annual Precipitation (inches)	Drainage Area (acres)
2	34.2	5,627
3	34.8	5,203
4	35.1	2,116
5	35.3	547

Based on the Division's method, seasonal unimpaired flow is the total volume of water, on average, that would flow past a selected POI between December 15 and March 31 if no diversions were taking place in the watershed above that point.

Seasonal unimpaired flow was computed by adjusting the estimated annual unimpaired flow based on the seasonal occurrence of precipitation. Petaluma Fire Station three, located approximately 5.5 miles from the project area, was used for the precipitation data. The average annual precipitation for the 1949-2002 period of record is 24.97 inches. The average precipitation for the season of December 15 through March 31 is 15.55 inches, or approximately 62.3 percent of the average annual precipitation.

Table 5 summarizes the calculated estimated average seasonal unimpaired flow for each POI for the period of December 15 through March 31.

TABLE 5 - ESTIMATED AVERAGE SEASONAL UNIMPAIRED FLOW[22]

POI #	Estimated Average Seasonal Unimpaired Flow (acre-feet)
2	4,696
3	4,418
4	1,812
5	471

Diverters of record within the watersheds were researched using the Division's Water Rights Information Management System (WRIMS) database. The objective of the query was to determine the total face value of seasonal diversions for all diverters, and calculate the percent impairment for the estimated unimpaired seasonal runoff for the watersheds of interest. **Table 6**

summarizes the total entitlement of recorded water rights above each POI and the Cumulative Flow Impairment Index (CFII), which was calculated by dividing the entitlements by the estimated average seasonal unimpaired flows from **Table 5**. The WAA notes that the purposes of use for many of the diversions of record are non-consumptive, or nearly non-consumptive, such as stockwatering, fire protection, and fish and wildlife protection and/or enhancement. Accordingly, the use of the face values of these entitlements for computing CFIIs is conservative.

TABLE 6 -TOTAL ENTITLEMENT OF RECORDED WATER RIGHTS AND CUMULATIVE FLOW IMPAIRMENT INDEX VALUES[23]

POI #	Total Entitlement of Recorded Water Rights (acre-feet)	Cumulative Flow Impairment Index [1]
2	272	5.8%
3	272	6.2%
4	209	11.5%
5	203	43.1%

In 2002, DFG and NMFS developed Draft Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams (DFG-NMFS Draft Guidelines), dated June 17, 2002[24]. The DFG-NMFS Draft Guidelines were recommended for use by permitting agencies (including the Division), planning agencies, and water resources development interests when evaluating proposals to divert and use water from northern California coastal streams. The DFG-NMFS Draft Guidelines apply to projects located in the geographic area of Sonoma, Napa, Mendocino, and Marin counties, and portions of Humboldt County. This project is within the geographic limits of the DFG-NMFS Draft Guidelines.

The DFG-NMFS Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFG-NMFS Draft Guidelines recommend limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high. The project's proposed diversion season is within the season recommended by the DFG-NMFS Draft Guidelines.

The DFG-NMFS Draft Guidelines provide a process for assessing the cumulative impacts of multiple diversion projects on downstream fisheries habitat by calculating the Cumulative Flow Impairment Index (CFII) to estimate the cumulative effects of existing and pending projects in a watershed of interest. The DFG-NMFS Draft Guidelines recommend a bypass flow that adequately protects salmonids and aquatic resources downstream from the POD. Specifically, a bypass equivalent to February Median Flow (FMF) at the POD is recommended absent a site-

specific study to determine a protective bypass flow. The DFG-NMFS Draft Guidelines also recommend an additional hydrologic analysis when the CFII is between five and ten percent, and site-specific studies when the CFII is greater than ten percent. However, in a letter dated March 9, 2004, NMFS withdrew its protest of the application and expressed the opinion that the project poses no potential impact to anadromous fish. This finding was based on a site visit by NMFS, DFG, and Division staff on August 25, 2003. The 2004 NMFS letter states "The WAA shows that the Cumulative Flow Impairment Indices (CFII) for the project stream are about six percent in the lower reaches of the river, the segment most likely to support year-round aquatic life. This calculated six percent allocation of the total unimpaired winter runoff includes non-consumptive, or nearly non-consumptive uses such as stockwatering, fire protection, and fish and wildlife enhancement. This means that in most years, ponds fulfilling those needs are not completely drawn-down and annually permitted diversions under those water rights are not maximized. Thus the actual percent volume of unimpaired winter flow that is diverted is probably less than six percent for these lower Points of Interest (POIs)."

The 2004 NMFS letter goes on to state "The estimated CFII of 43 percent at POI 5 (immediately below the Applicant's project reservoir) is a very significant portion of the unimpaired flow at that site. However, it is unlikely that salmonid production would be impacted in this upper segment because: 1) it is improbable that, in this upper segment, the stream would remain continuously flowing for the 6 to 8 week duration necessary for successful steelhead spawning and incubation during the spawning and incubation period of steelhead (late January through March); and 2) the absence of downstream rearing habitat for steelhead."

The FMF at POI 5 was calculated by adjusting the FMF for the USGS Gaging Station 11459000 (Petaluma River at Petaluma, California) for differences in drainage area and mean annual precipitation. The drainage area for the USGS Petaluma River gage is 19,814 acres, and the drainage area for POI 5 is 547 acres. The weighted mean annual precipitation is 28.9 inches at the USGS Petaluma River gage and 35.3 inches at POI 5. The FMF at the Petaluma River gage was calculated to be approximately ten cfs. The FMF at POI 5 was calculated to be approximately 0.33 cfs. The amendment to the WAA notes that the computed FMF at the gage would be underestimated to the extent that diversions were being made from within the watershed above the Petaluma River gage during the period of record. The result would be a conservative estimate of the FMF for POI 5.

Although, the DFG-NMFS Draft Guidelines indicate that new storage ponds should be constructed offstream and permitting of new or existing onstream storage ponds should be avoided, the Applicant is modifying the existing spillway with a four-foot flashboard dam to increase the reservoir capacityand is not proposing construction of a new pond. Therefore, approval of Water Right Application 30978 will not result in the permitting of a new onstream dam.

In response to recommendations by NMFS and the Division, and consistent with the DFG-NMFS Draft Guidelines developed to maintain instream flows to protect fisheries resources downstream of water diversions, the Applicant has agreed to a shortened diversion season of December 15 to March 31 under Application 30978 and would maintain minimum bypass flows equal to the estimated unimpaired FMF or 0.33 cfs, during the diversion season.

The December 15 to March 31 diversion season would limit the CFII on the Unnamed Stream immediately above the confluence with the Petaluma River to 5.8 percent (see discussion above). The proposed project would not result in a significant reduction in water supplies downstream of POD 1 and the bypass would maintain aquatic and riparian habitat downstream of the diversion. The water volumes and flows associated with the proposed project also would not result in a substantial increase or threat from invasive, non-native plants and wildlife. Monitoring and reporting should be conducted to ensure that diversion occurs only in accordance with permit conditions and that bypass flows are met.

The following permit term, substantially as follows, will be included in any water right permit or license issued pursuant to Application 30978 to protect downstream water rights and aquatic resources depending on stream flows:

- *Before storing water under this permit, Permittee shall install a staff gage in the reservoir, satisfactory to the Chief of the Division of Water Rights, for the purpose of determining water levels in the reservoir. The Permittee must maintain the staff gage in operating condition as long as water is being diverted or used under this permit.*

- *Permittee shall record the staff gage readings on the last day of each month. Permittee shall record the maximum and minimum water surface elevations and the dates that these water levels occur, each water-year between October 1 and September 30. Permittee shall maintain a record of all staff gage readings and shall submit these records with all required Reports of Permittee, Reports of Licensee or whenever requested by the staff of the Division of Water Rights.*

- *Prior to diversion or use of water under this permit, Permittee shall install in-line flow meters, satisfactory to the Chief of the Division of Water Rights that measure the instantaneous rate and the cumulative amount of water withdrawn from the reservoir at Point of Diversion (POD).*

  The in-line flow meter must be maintained in operating condition as long as water is being diverted or used under this permit. Permittee shall maintain a record of the end-of-the-month meter readings and of the days of actual diversion, and shall submit these records with all required Reports of Permittee, Reports of Licensee, or whenever requested by the staff of the Division of Water Rights.

- *For the protection of fish and wildlife, under all bases of right, Permittee shall during the period from December 15 of each year through March 31 of each succeeding year bypass a minimum of 0.33 cubic foot per second (cfs) at Point of Diversion (POD).*

Under all bases of right Permittee shall bypass the total streamflow at POD from April 1 through December 14 of each year. The total streamflow at POD shall be bypassed whenever it is less than 0.33 cfs.

- *Prior to the start of construction, or diversion or use of water under this permit, the Permittee shall submit a Compliance Plan for approval by the Chief of the Division of Water Rights that will demonstrate compliance with the flow bypass terms specified in this permit. The Compliance Plan shall include the following:*

  a) A description of the physical facilities (i.e., outlet pipes, siphons, pipelines, bypass ditches, splitter boxes etc.) that will be constructed or have been constructed at the project site and will be used to bypass flow.
  b) A description of the gages and monitoring devices that will be installed or have been installed to measure stream flow and/or reservoir storage capacity, including any necessary calibration.
  c) A time schedule for the installation and rating of these facilities.
  d) A description of the frequency of data collection and the methods for recording bypass flows and storage levels.
  e) An operation and maintenance plan that will be used to maintain all facilities in good condition.
  f) A description of the events that will trigger recalibration of the monitoring devices, and the process that will be used to recalibrate.

  The Permittee shall be responsible for all costs associated with developing the Compliance Plan, and installing and maintaining all flow bypass and monitoring facilities described in the Compliance Plan.

  Permittee shall maintain all measurements and other monitoring required by this condition. Permittee shall provide measuring and monitoring records to the Chief of the Division of Water Rights within 15 days upon request by the State Water Resources Control Board, the Division Chief, or other authorized designees of the State Water Resources Control Board.

  Diversion or use of water prior to approval of the Compliance Plan and the installation of facilities specified in the Compliance Plan is not authorized.

The proposed project could result in potentially significant impacts to hydrology and water quality. However, with implementation of the identified permit terms, and the permit terms described in the Geology and Soils Section, potential impacts would be reduced to a less than significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or USFWS?	☐	☑	☐	☐
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?	☐	☑	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☑

Biological surveys of the project area were conducted by Fawcett Environmental Consulting on October 21, 23, and 27 and November 15, 2000[25]. Aquatic and terrestrial habitats were evaluated during daylight hours by walking the property, and frog field surveys were conducted during daylight and night hours by walking around the existing reservoir and along stream and riparian areas above and below the reservoir. The surveys were conducted in response to the May 30, 2000 Division letter that requested a special-status animal survey, the October 16, 2000 USFWS protest letter and the October 25, 2000 NMFS protest letter that were discussed in the Project Background section. Also, as discussed in the Project Background section, no special-status plant survey was required for the project given the state of the pastureland in the proposed POU.

AES Biologist John Howe visited the site on November 14, 2003 to conduct a habitat assessment. The property was surveyed by walking meandering transects in order to view and evaluate all areas within and directly adjacent to the proposed POU. Habitat types occurring

within the property were characterized and evaluated for their potential to support regionally occurring special-status species. In addition, the proposed POU was assessed for the presence of jurisdictional wetlands and other waters of the U.S.

Characteristic vegetation communities occurring within the project region include annual grassland, with scattered willows (yellow/red/black tree-type) and a grove of eucalyptus. Most of the seasonal stream habitat on the property lacks any riparian vegetation. These habitat types are discussed below, and a habitat map of the Teixeira property is presented as **Figure 5**. Photographs of the project site are presented in **Figures 6**, **7**, and **8**.

The project area includes the dam, the existing reservoir, and the surrounding proposed POU. In addition to the Unnamed Stream that enters the reservoir through the culvert under Adobe Road, there are two smaller seasonal tributaries entering the southeast corner of the reservoir.

Habitats

Annual Grassland/Pasture

Annual grasslands constitute approximately 300 acres of the project area (**Figure 6**, Photo 1). A mixture of non-native grasses and forbs dominates the grassland habitat. These areas of the project have been partially irrigated for pasture for several years. Wildlife observed in these areas during field surveys included: killdeer (*Charadrius vociferus*), western meadowlark (*Sturnella neglecta*), California vole (*Microtus californicus*), red-winged blackbird (*Agelaius phoeniceus*), barn owl (*Tyto alba*), Brewer's blackbird (*Euphagus cyanocephalus*), turkey vulture (*Cathartes aura*), a feral housecat (*Felis catus*), and Botta's pocket gopher (*Thomomys bottae*). Additionally, the red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), and American crow (*Corvus brachyrhynchos*) observed roosting in the eucalyptus trees likely use the grassland as foraging habitat.

Ponds

Two ponds were identified within the project area: the existing reservoir and a small manure pond. The existing reservoir has a surface area of approximately 11 acres and a maximum depth of 35 feet (**Figure 6**, Photo 2). The banks of the reservoir are mostly exposed, barren sand/mud with moderate to steep banks. Vegetated areas around the reservoir consist primarily of cocklebur (*Xanthium* sp.) and curly dock (*Rumex crispus*), with some areas dominated by bulrush (*Scripus* sp.). Wildlife observed during field surveys included: swamp crayfish (*Procambarus clarkii*), largemouth bass (*Micropterus salmoides*), bullfrog (*Rana catesbeiana*), western fence lizard (*Sceloporus occidentalis*), northern alligator lizard (*Elgaria coerulea*), western pond turtle (*Clemmys marmorata*), American coot (*Fulica americana*), black-crowned night heron (*Nycticorax nycticorax*), Canada goose (*Branta canadensis*), canvasback (*Aythya valisineria*), common snipe (*Gallinago gallinago*), great blue heron (*Ardea herodias*),

SOURCE: "Petaluma River, CA" USGS 7.5 Minute Topographic Quadrangle, Un-Sectioned area of "Petaluma", Township 5N, Range 6W, Mt. Diablo Baseline and Meridian ; AES, 2004

Figure 5
Habitat Map

PHOTOGRAPH 1

View of annual grassland/pasture on hillside (background) looking west.

PHOTOGRAPH 2

View of existing reservoir looking northeast from near its southwest corner.

PHOTOGRAPH 3

View of manure pond looking east.

SOURCE: AES, 2004

Figure 6
Site Photographs

PHOTOGRAPH 1

View of stream course (foreground) and annual grassland/pasture (background) from the reservoir dam looking north.

PHOTOGRAPH 2

View of pasture, the stream course below the dam, and proposed vineyard site (background) looking east.

PHOTOGRAPH 3

View of ephemeral stream channel shortly after a rainstorm looking west, upstream.

SOURCE: AES, 2004

Figure 7
Site Photographs

PHOTOGRAPH 1

View of the two ephemeral streams entering the reservoir near its southwest corner.

PHOTOGRAPH 2

View of Eucalyptus stand looking south from the reservoir dam.

SOURCE: AES, 2004

Figure 8
Site Photographs

great egret (*Ardea alba*), killdeer (*Charadrius vociferus*), least sandpiper (*Calidris minutilla*), lesser scaup (*Aythya affinis*), lesser yellow legs (*Tringa flavipes*), mallard (*Anas platyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), willet (*Catoptrophorus semipalmatus*), broad-footed mole (*Scapanus latimanus*), muskrat (*Ondatra zibethicus*), and an unidentified species of bat. A small manure pond was observed northwest of the reservoir (**Figure 6**, Photo 3). This feature is used to contain runoff from the dairy operation within the project area. It is approximately one-acre in size. Vegetation observed in association with the manure pond included cocklebur and yellow-star thistle (*Centaurea solstitialis*). No wildlife was observed within this area.

Streams

Five streams were identified within the project area. One of these is the main water feature that fills the existing reservoir during the rainy season. This intermittent stream originates northeast of the project area and crosses into the project area and into the existing reservoir from a culvert under Adobe Road. The reservoir encompasses a portion of this stream's historic channel, which continues below the dam on to the Petaluma River (**Figure 7**, Photos 1 and 2). Below the dam, this stream consists of a bed comprised of loose sand, dry mud, and small gravel, and banks of unconsolidated, eroding soil vegetated with cocklebur, annual grasses and forbs, with isolated willow trees (*Salix* spp.). The stream continues in this manner as it flows northwest and out of the project area. Two small ephemeral tributaries to this stream were observed in the western half of the project area. One of these ephemeral streams occurs northwest of the barn structures and just south of the manure pond. This tributary was observed with small intermittent patches of emergent and riparian vegetation (**Figure 7**, Photo 3). The other occurs northwest of the aforementioned stream near the northwest boundary of the property, and consists of an un-vegetated, eroded channel.

The other two streams identified within the project area are ephemeral features that drain local runoff into the southeast corner of the reservoir (**Figure 8**, Photo 1). One of these streams originates below the intersection of Adobe Road and Stage Gulch Road and was observed to support a nearly continuous band of willow trees up to its entry into the reservoir. This area was also vegetated with rush (*Juncus* spp.), nutsedge (*Cyperus* spp.), and pennyroyal (*Mentha pulegium*). The other originates from outside of the project area, but within the property, just north of the property access road. The vegetation observed in association with this stream consisted primarily of cocklebur and curly dock.

Wildlife observed in association with these areas included: western scrub jay (*Aphelocoma californica*), northern flicker (*Colaptes auratus*), and northern mocking bird (*Mimus polyglottos*).

Eucalyptus Stand
A stand of eucalyptus trees was observed just south of the reservoir (**Figure 8**, Photo 2). These trees are all over 35 feet in height with mature crowns. Wildlife observed roosting in the eucalyptus trees included: great egret (*Ardea alba*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American crow (*Corvus brachyrhynchos*).

Special-Status Species

For the purposes of this Initial Study, "special-status" is defined to include those species that are:

- Listed as endangered or threatened under the Federal Endangered Species Act (or formally proposed, or candidates, for listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as species of special concern by the DFG;
- Plants or animals that meet the definitions of rare or endangered under CEQA;
- Plants listed as rare under the California Native Plant Protection Act; or
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1B and 2).

An inventory of regionally occurring special-status plant and animal species was gathered based on a review of pertinent literature, reconnaissance-level site assessments, informal consultation with the USFWS, and the results of a California Natural Diversity Data Base (CNDDB) query of all reported occurrences of special-status species within the Petaluma River and surrounding eight quadrangles[26]. Habitat requirements for each special-status species were assessed and compared to the habitats occurring within the property and adjacent areas; each species was assessed for the possibility of occurrence on the project site and adjacent areas. The study area and/or adjacent areas represent potential habitat for two special-status plants and eight special-status animals. The name, regulatory status, habitat requirements, and period of identification for regionally occurring special-status species are identified in **Table 7** and briefly discussed below.

TABLE 7 - REFINED DATABASE RESULTS OF POTENTIAL REGIONALLY OCCURRING SPECIAL-STATUS SPECIES[27]

Scientific Name Common name	Listing Status USFWS/DFG/ CNPS	General Habitat Description	Ideal Period of Identification
PLANTS			
Amsinckia lunaris Bent-flowered fiddleneck	--/--/1B	Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands.	March-June
Erodium macrophyllum Round-leaved filaree	--/--/2	Cismontane woodland and valley/foothill grassland in clay.	March-May
ANIMALS			
Invertebrates			
Syncaris pacifica California freshwater shrimp	FE/SE/--	Found in low elevation, low gradient perennial streams.	All year
Fish			
Oncorhynchus mykiss irideus California Central Coast steelhead - ESU	FT/--/--	Requires perennial streams, or intermittent streams with perennial pools, with clean, well aerated gravel beds for spawning and juvenile rearing.	November-February
Amphibians			
Ambystoma californiense California Tiger Salamander Sonoma County Population	FE/--/--	Seasonal and perennial ponds in grassland and oak savannah.	March-May
Rana aurora draytonii California red-legged frog	FT/CSC/--	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent vegetation.	May-November
Reptiles			
Clemmys marmorata Western pond turtle	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying.	All year
Birds			
*Athene cunicularia (hypugaea)** Burrowing owl (burrow sites) *Western burrowing owl subspecies listed as Federal species of concern	--/CSC/--	Uses elevated rodent or other burrow for roosting and nesting. Frequents open grasslands and shrublands. Found as high as 5,000 ft. in elev.	Dec. 1-Jan.31 & April 15-July15
Elanus leucurus White-tailed kite	--/CFP/--	Nests in dense oak, willow, or other tree stands near open grasslands meadows, farmlands, and emergent wetlands.	February-September
Lanius ludovicianus Loggerhead shrike	--/CSC/--	Found in a variety of habitats with open areas, available perches, and dense shrubs for nesting.	March-August

FEDERAL: U.S. Fish and Wildlife Service and National Marine Fisheries Service

FE Listed as Endangered by the Federal Government
FT Listed as Threatened by the Federal Government

STATE: California Department of Fish and Game

CSC California Species of Special Concern
CFP California Fully Protected Species
SE State Endangered

CNPS: California Native Plant Society

List 1B Plants rare or endangered in California and elsewhere
List 2 Plants rare or endangered in California, but more common elsewhere

State and Federally Listed Species

California Freshwater Shrimp

The closest known location of California freshwater shrimp to the project site is Sonoma Creek near Glenn Ellen, approximately seven miles north of the project. All of the known extant populations of this species occur in low gradient, low elevation, freshwater streams with stable, undercut banks or exposed rootwads, and emergent or submergent vegetation or overhanging riparian vegetation trailing in the water. These shrimp have no means of surviving drought, so they are confined to either perennial streams or seasonally intermittent streams that have perennial pools with appropriate habitat. The site surveys did not reveal habitat similar to that found where extant populations are known to exist. Roadside observations of downstream areas in the Unnamed Stream's watershed also did not reveal any habitat suitable for freshwater shrimp, as all the sites were dry and had unstable, eroding banks.

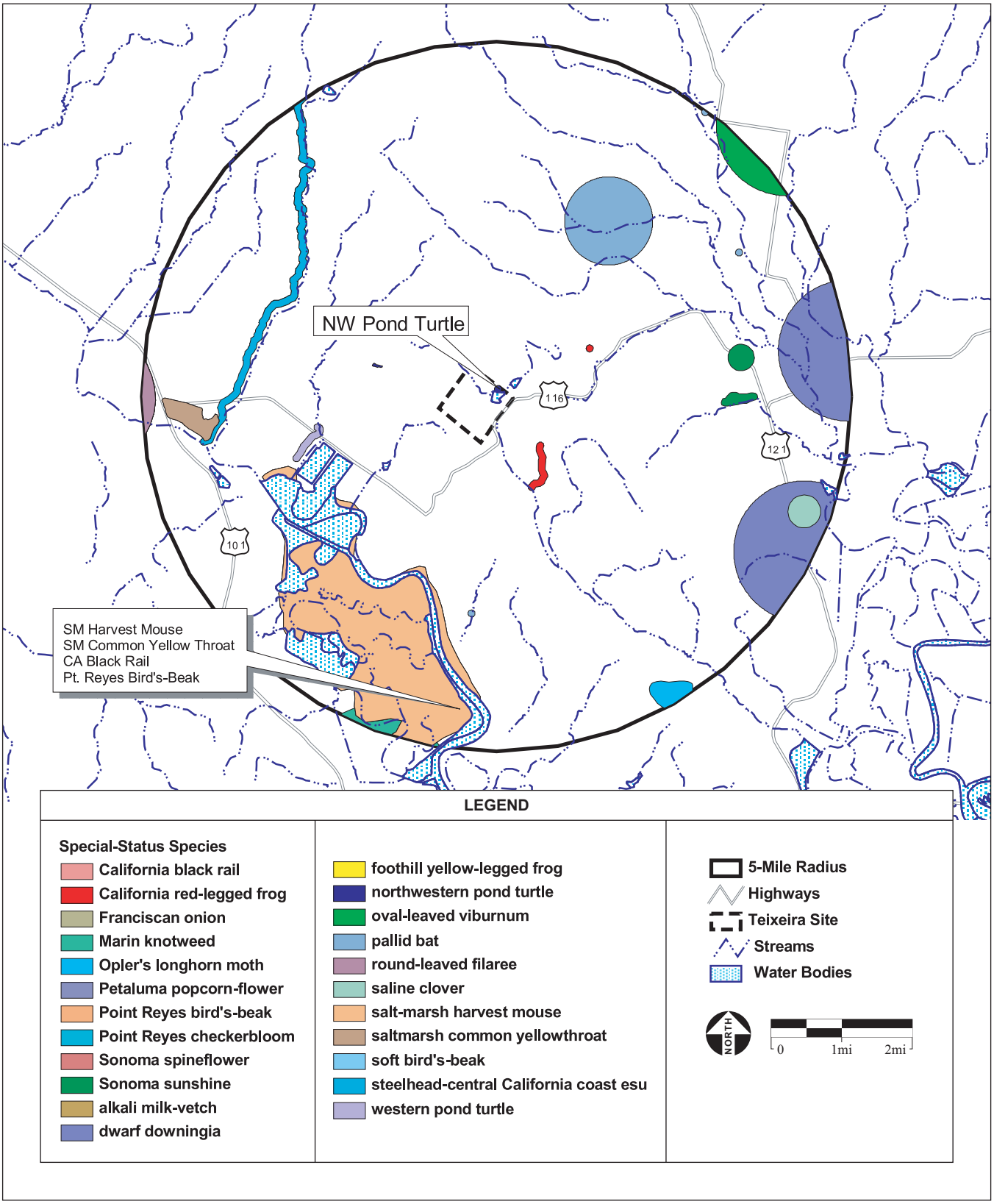
Steelhead Trout

A typical steelhead stream in Sonoma County has a rocky bottom and a dense canopy of riparian trees overhead, and either flows throughout the summer or has some deep pools with subsurface flow where the fish spend the dry season. Suitable habitat for steelhead spawning or rearing does not presently exist within or near the project area, nor upstream or downstream in the main stem as far as can be seen on public roads. Additionally, in a letter dated March 9, 2004 regarding their protest, NMFS stated, "Reconnaissance of the project site and the affected unnamed stream together with the WAA indicate that the project poses no potential impact to steelhead."

California Red-Legged Frog

Red-legged frogs were not found within or near the project area during the protocol field surveys conducted in 2000. The nearest known occurrence of California red-legged frogs is approximately 0.82 miles southeast of the existing reservoir. This record from 2004 is located on private property in a stockpond and drainage, which is tributary to Tolay Creek (**Figure 9**). This occurrence reports the presence of adults, juveniles, and larvae. At the time of the observation, bullfrogs were also present. Another occurrence was reported approximately 1.37 miles northeast of the existing reservoir (**Figure 9**). Reported in 2002, this location was at an abandoned leachate pond associated with the Sonoma County Transfer Station (landfill). At the time the observation was made, the leachate pond on that property was proposed for development. No other occurrences have been documented within a 2.5-mile radius of the project site[28].

Potentially suitable habitat within the project site includes the short tributary that enters the southwest corner of the reservoir, the existing reservoir, and small mammal burrows, rootwads, logs or other objects lying on the ground near the reservoir or in swales terminating in the



SOURCE: ESRI Data, 2001 ; AES, 2004

Figure 9

Special-Status Species Within 5 Miles of Project Site

reservoir. Reported occurrences within one mile of the project site indicate that it is possible that California red-legged frogs could use the project site in the future. However, the establishment of a viable population is unlikely due to the presence of bullfrogs and non-native fish species in the pond.

California Tiger Salamander

California tiger salamanders require suitable aquatic habitat for breeding and upland habitat for aestivation. Aquatic breeding habitat includes vernal pools, and seasonal and perennial ponds in grassland and oak savannah plant communities from sea level to approximately 3,600 feet. Aquatic breeding ponds are almost always found in grassland habitat. California tiger salamanders spend most of their lives in upland habitats. Upland habitat consists of grassland and oak savannah with burrows of small mammals such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher. California tiger salamanders most commonly use burrows in open grassland or under isolated oaks, and less commonly in oak woodlands. They cannot dig or maintain their own burrows, and consequently require the presence of burrowing mammals for burrow construction and maintenance.

The Sonoma County population of California tiger salamanders was listed as Federally Endangered in 2003. The listing was temporarily downgraded to Threatened from August 4, 2004 to August 19, 2005. The Santa Rosa Plain Conservation Strategy was developed in December 2005 to guide the recovery of the Sonoma County Population of California tiger salamanders. The Conservation Strategy identifies ten Conservation Areas. The project area is not located within any of the Conservation Areas identified in the Conservation Strategy. No California tiger salamanders have been found within the project area. The nearest record for California tiger salamanders is greater than eight miles from the project area[29]. Although the project area represents potential habitat for the California tiger salamander, the exclusion of the area from the Conservation Strategy, the presence of bullfrogs and largemouth bass in the reservoir and the lack of burrowing habitat (i.e., ground squirrels), suggests that the project area is poor quality habitat for the species.

State and Federal Species of Concern

Bent-Flowered Fiddleneck

Bent-flowered fiddleneck is a federal species of concern and is considered fairly endangered in California by the CNPS[29]. This species is endemic to California and known to occur in nearby Marin County. This species can be found in valley and foothill grasslands, cismontane woodland, and coastal bluff scrub. Though the annual grasslands within the project site provide potential habitat for this species, it is believed that grazing on the property for over the past 40 years and the dominance of non-native grasses and forbs limit the possibility that this plant

occurs on the project site. The nearest known occurrence is over 13 miles southwest of the project site near San Geronimo in Marin County[30].

Western Pond Turtle

The western pond turtle is a state species of concern. They are common in ponds, reservoirs, stockponds and streams throughout Sonoma County. The CNDDB reports the occurrence of the northwestern pond turtle on the property. One adult male western pond turtle was observed basking on the east shore of the reservoir during the surveys[31]. The Applicant has also noted that turtles are frequently seen in the reservoir.

Burrowing Owl

Burrowing owls are state and federal species of concern. Burrowing owls are rare in Sonoma County, with the latest sightings of individual birds reported in 1984 and 1988. Burrowing owls nest and roost on the ground, in burrows left by small animals, especially ground squirrels. The declining numbers of burrowing owls in the county relates to the extermination of ground squirrel populations through pest control measures. No burrowing owls were found within the upland areas of the property, no ground squirrels were seen, and no burrows larger than those made by gophers were observed.

White-Tailed Kite

White-tailed kites are fully protected by the state and are considered a federal species of concern. White-tailed kites are a yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. They are known to forage in undisturbed, open grasslands, meadows, farmlands and emergent wetlands[32]. They feed primarily on voles and other small mammals. They nest in the tops of dense oak, willow, or other tree stands. The pasture areas and eucalyptus stand within the project site represent suitable foraging and nesting habitat, respectively, for white-tailed kites. This species was not observed within the project area during surveys of the site.

Loggerhead Shrike

Loggerhead shrikes are state and federal species of concern. Loggerhead shrikes are a common resident and winter visitor in lowlands and foothills throughout California. This species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches[33]. They are known to prey on large insects, small birds, small mammals, reptiles, amphibians, and fish. They are known to nest in the dense foliage of shrubs and trees. The pasture areas and willow-lined ephemeral drainage represent suitable foraging and nesting habitat, respectively, for this species. This species was not observed within the project area during surveys of the site.

CNDDB 2.5-Mile Radius Query

The CNDDB was queried and occurrences of special-status species plotted in relation to the project site using Geographical Information System (GIS) software[34]. The northwestern pond turtle was reported within the project site, and the CNDDB reported seven additional special-status species and one habitat occurrence within a 2.5-mile radius of the project site: California black rail (*Laterallus jamaicensis coturniculus*), California red-legged frog (*Rana aurora draytonii*), Contra Costa goldfields (*Lasthenia conjugens*), pallid bat (*Antrozous pallidus*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), western pond turtle (*Clemmys marmorata*), and coastal brackish marsh (**Figure 9**).

Species that appear in close proximity to the project site, including the California red-legged frog and western pond turtles, have been addressed in the preceding paragraphs. The western pond turtle is the only special-status species that was found on the project site. The California black rail, saltmarsh harvest mouse and saltmarsh common yellowthroat require marsh habitat were not found on the project site. Similarly, coastal brackish marsh habitat is not found on the project site. Contra Costa goldfields were reported approximately one mile from the project site. However, habitat for Contra Costa goldfields – vernal pools in open grassy areas[35] – is not found on the project site. Finally, the pallid bat was reported approximately 2.5 miles from the project site. Bats of an unidentified species were observed flying around the reservoir during the October 2000 night surveys. However, pallid bats roost in fissures in cliffs, abandoned buildings, bird boxes and under bridges[36]. Roosting habitat is not found on the project site.

The pasture, eucalyptus stand, reservoir, and streams found on the property represent potential habitat for a variety of wildlife. The conversion of the pasture to vineyard and the expansion of the reservoir would alter existing and potential habitat within the project site for two special-status species, California red-legged frogs and western pond turtle. In addition, suitable trees and other vegetation found on and within the project site represent potential nesting habitat for protected raptor and migratory bird species.

Expansion of the existing reservoir could impact potential habitat for California red-legged frogs by flooding the lower reaches of the ephemeral streams, which are tributary to the reservoir. One of these streams has a well-developed stand of shrub-size willows that could provide suitable cover for this species. Although California red-legged frogs were not found within or near the project site during protocol surveys conducted in 2000, reported occurrences within one mile of the project site indicate that it is possible that California red-legged frogs could use the project site in the future. However, the establishment of a viable population is unlikely due to the presence of bullfrogs and non-native fish species in the pond. The expansion of the existing reservoir would result in a less than significant direct impact to California red-legged

frogs given the negative findings during the protocol surveys, however, mitigation is proposed below to improve the future viability of habitat for the species.

Additionally, approximately 240 linear feet of the ephemeral streams originating below the intersection of Adobe Road and Stage Gulch Road would be inundated by the reservoir expansion. This is potentially a significant impact.

Riparian vegetation along streams provides essential habitat between terrestrial and aquatic environments for native plant and wildlife species, including several special-status species, and creates corridors for animal movement and plant dispersal across the landscape. In addition, riparian habitats provide important ecological services and benefits to water quality including: water temperature regulation via canopy cover and shade, bed and bank stabilization and erosion control, filtration of sediments and pollutants, nutrient cycling, maintenance of channel form and character, and moderation of hydrologic peaks during the wet season. Due to the essential habitat and services that riparian habitats provide, restrictions on the proximity of ground-disturbing activities are often employed (i.e., stream setbacks/buffers) as a means of protecting existing riparian vegetation and promoting regeneration of riparian vegetation after disturbance. Determination of the appropriate buffer size is difficult because standard agency guidelines have not been established. Likewise, the body of scientific literature associated with riparian buffers and stream setbacks is quite large, with recommendations varying depending on the specific objectives of the research (e.g., focal species, ecosystem function parameters and endpoints, etc.). Additionally, a wide range of physical factors influences local site sensitivity, including soil type, topography, precipitation and channel morphology. Consequently, recommended stream setbacks associated with mitigation are derived from the existing scientific literature, relevant guidance and professional judgment.

Establishment of appropriate and effective stream setbacks and riparian buffers for this project is based upon the guidance provided in *Report of the Scientific Review Panel on California Forest Practice Rules and Salmonid Habitat*[37], which was prepared for DFG and NMFS. Protection of salmonid habitat relies on a set of ecological functions (e.g., sediment and nutrient filtration, water temperature moderation, maintenance of geomorphic processes, channel and habitat complexity, and forage) in combination with protection of appropriate stream flows. This analysis utilizes the California Department of Forestry's (CDF) stream classification system and recommended buffers as summarized below as a basis for defining appropriate stream setbacks:

- Class I – 75 to 150 foot (ft) stream setback
  Streams that are inhabited by fish seasonally or annually, or if domestic supplies are onsite or within 100 feet downstream.
- Class II – 50 to 100 ft stream setback

Streams where fish may not be present onsite, but may be found within 1,000 feet downstream and/or provide habitat for non-fish aquatic species (intermittent).

- Class III – 25 to 50 ft stream setback
  Streams that have the capability of transporting sediment downstream to Class I or II waters and where no aquatic life is present (ephemeral).

The proposed project could impact the riparian habitat onsite because of the proximity of the proposed vineyard to the intermittent and ephemeral streams on the project site (**Figure 5**). The riparian habitat may be directly impacted during construction if machinery or equipment damages the vegetation associated with the riparian habitat. According to the CDF stream classification system, the Unnamed Stream that originates northeast of the existing reservoir and continues below the reservoir in a northwesterly direction across the subject property would best be classified as a Class II stream. The ephemeral streams on that are tributary to the Unnamed Stream would best be classified as Class III streams. Based on these classifications, the Unnamed Stream would require a minimum setback of 50 feet and the ephemeral streams would require a minimum setback of 25 feet. This setback is measured from the top of the bank and applies to both sides of the streams. Any portions of the existing riparian corridor (defined by extant riparian vegetation) that exceed the minimum 50 and 25-foot setbacks (on either side of the stream) shall be maintained as well to preserve the existing functional integrity of the corridors. Specifically, the outer dripline of existing trees and shrubs along the Unnamed Stream and the ephemeral streams shall define the minimum stream setback when riparian vegetation exceeds the minimum stream setbacks. Proposed stream setbacks incorporate relevant guidance provided by scientific literature as well as professional assessment of the project area. The resulting stream setback buffers incorporate minimum 50 foot (Unnamed Stream) and 25 foot (ephemeral streams) buffers that protect all existing riparian vegetation and promote the natural regeneration of riparian vegetation in the future.

In addition to providing a buffer along the northern and eastern shores of the reservoir, discussed below, that would serve both as terrestrial habitat for the western pond turtle and California red-legged frog, the following permit term, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978 to protect and mitigate for disturbed riparian habitat:

- *For the protection of potential habitat for the western pond turtle (Clemmys marmorata) and to allow for the continued growth of riparian vegetation, the Permittee shall:*

  1. *Maintain a 50-foot-wide setback around the reservoir as shown on Setback Map No. SB-01 dated February 25, 2008 on file with th-e Division of Water Rights. No new ground disturbing activities shall occur within the setback area, with the exception of livestock access and occasional equipment access necessary for continued operation of the reservoir. Equipment access within the setback area shall be limited to only activities necessary for the ongoing operation of the*

reservoir and shall incorporate best management practices to minimize disturbance to water, soils, and vegetation. Natural vegetation shall be preserved and protected within the setback area. Planting of native riparian vegetation within the setback area is allowed.

2. *Obtain approval of the United States Fish and Wildlife Service (USFWS), Sacramento Endangered Species Office, and the California Department of Fish and Game (DFG) prior to any future reservoir dredging operations. Permittee shall submit to the Chief of the Division of Water Rights evidence of agencies approval prior to any future reservoir dredging operations.*
3. *Refrain from disturbing emergent (wetland) vegetation in the reservoir during dredging operation.*

- *For the protection of riparian habitat and mitigation of disturbed riparian habitat, Permittee shall establish a setback as shown on Setback Map No. SB-01 dated February 25, 2008 on file with the Division of Water Rights. The setback shall be at least 50 feet wide along the unnamed intermittent stream within the Place of Use as measured from the top of the bank on both sides of the stream and at least 25 feet wide along the ephemeral streams within the Place of Use as measured from the top of the bank on both sides of the streams. No ground disturbing activities shall occur within the setback area, including, but not limited to, grading, herbicide spraying, roads, fencing, and use or construction of storage areas, with the exception of livestock access and occasional equipment access reasonably necessary for continued operation of the vineyard and management of the setback area. Equipment access through the setback shall be limited to previously disturbed areas of the setback when possible and is only allowed when other means of access are not available. Equipment access through the setback area shall incorporate best management practices to minimize disturbance to water, soils, and vegetation. Planting of native riparian vegetation within the setback area is allowed. These requirements shall remain in effect as long as water is being diverted under this permit.*

- *For the protection of riparian habitat and mitigation of disturbed riparian habitat, Permittee shall implement a riparian enhancement plan. Prior to beginning construction or diversion or use of water under this permit, Permittee shall submit a riparian enhancement plan for review and approval of the Chief of the Division of Water Rights. The riparian enhancement plan shall specify: (1) the location of area to be planted; (2) the number and species of plants to be planted; (3) planting methods; (4) success criteria and monitoring methods; and (5) a description of the actions that will be taken if success criteria are not met. The riparian enhancement plan shall require at least five years of monitoring of the vigor and abundance of riparian plantings. The riparian enhancement area specified in the plan shall encompass at least 500 linear feet and 50,000 square feet of the setback identified on Setback Map No. SB-01 dated February 25, 2008 on file with the Division of Water Rights. Prior to beginning construction or diversion or use of water under this permit, the 50,000 square foot enhancement area shall be fenced to exclude livestock access. The riparian enhancement plan shall be implemented within two years of approval of the plan.*

The recommended 50- and 25-foot stream setbacks exceed Sonoma County requirements and are consistent with Title 14, California Code and Regulations regarding water class protection zone widths (for forest policies in California)[38].

Construction activity during the raising of the dam could temporarily disturb western pond turtles that are known to occur in the reservoir. Construction activities would likely last less than a week, and the water level in the reservoir would be drawndown to facilitate the addition of the flashboard structure. The reservoir would not be completely drained during enlargement. The subsequent filling of the reservoir would inundate areas that currently are used by pond turtles for basking and reproduction. This is a potentially significant impact.

The following permit terms, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978 to protect western pond turtles:

- *Permittee shall not conduct construction activities within 50 feet of drainages from October 16 of each year to April 30 of the succeeding year to reduce the likelihood of the presence of western pond turtles in construction areas. If a western pond turtle is encountered during construction, Permittee shall cease construction and ground-disturbing activities in areas within 250 feet of the location where the western pond turtle is present and shall contact the California Department of Fish and Game. Prior to restarting construction activities, Permittee shall submit to the Chief of the Division of Water Rights evidence of Department of Fish and Game approval to continue construction.*

- *This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & Game Code, §§ 205 - 2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531 - 1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.*

- *Prior to beginning construction or diversion or use of water under this permit, Permittee shall submit a western pond turtle habitat enhancement plan for review and approval of the Chief of the Division of Water Rights. The enhancement plan shall include the actions necessary to provide sufficient underwater refugia and basking habitat (e.g. submerged logs, downed trees and large rocks) for western pond turtles. Permittee shall develop the enhancement plan in consultation with Department of Fish and Game. The approved western pond turtle enhancement plan shall be implemented within one year of enlargement of the reservoir.*

Sonoma County provides protection to certain species of trees in its Tree Protection and Replacement Ordinance[39], however the proposed project would not impact any of these tree species. The expansion of the reservoir would likely flood approximately five of the existing

eucalyptus trees next to the reservoir. While these trees provide potential nesting and roosting habitat for great egret (*Ardea alba*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American crow (*Corvus brachyrhynchos*), they are not the preferred nesting tree of any native California bird. These bird species all prefer large native trees, such as oaks (*Quercus*), and would easily move to another large tree in the vicinity once the eucalyptus are removed. Eucalyptus trees are unstable, non-native trees that contain allelopathic chemicals detrimental to native vegetation growing below their canopies. Additionally, the fruit of these trees is toxic to several native bird species. Allowing the eucalyptus trees to remain on the site and become flooded is inadvisable for three reasons:

1. Flooding the eucalyptus trees would cause them to become dangerously unstable, creating a hazard to any nearby structures, trees, or wildlife.
2. Flooding the eucalyptus trees would guarantee their death, and may cause them to fall while containing a nest or while birds are roosting in them.
3. If the trees were to come in contact with the reservoir water for any significant amount of time, the allelopathic chemicals would kill native water vegetation, causing an indirect impact to the western pond turtle and other species dependent on the reservoir.

Instead of allowing the eucalyptus trees to be flooded when the reservoir water level is raised, it is recommended that the trees be removed prior to construction and outside of the breeding season.

If tree removal were to occur during the breeding season this would be a potentially significant impact. All raptor species, eggs, and their nests, as well as nests and eggs of all bird species are protected from take pursuant to California Fish and Game Code Sections 3503 and 3503.5.

The following permit term, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978 to protect raptor species and nesting birds:

- *In accordance with the requirements of Water Code section 1393, Permittee shall clear the area covered by the proposed reservoir enlargement of all structures, trees, and other vegetation which would interfere with the use of the reservoir for water storage and recreational purposes.*

- *If tree removal activities are to occur between February 1 and September 30, a biologist, whose qualifications are acceptable to Division of Water Rights staff, shall conduct a pre-construction survey for the purpose of identifying nesting bird species prior to tree removal. The pre-construction survey shall include all potential nesting habitat within 500 feet of proposed tree removal activities. The survey shall be conducted no more than 14 days prior to the beginning of tree removal activities. If an active raptor or migratory bird nest is found during the pre-construction survey, the Permittee shall notify the California Department of Fish and Game. If an active raptor nest is found during the pre-construction survey, a 500-foot no-disturbance buffer shall be established and*

maintained around the nest until all young have fledged. If an active nest of any other migratory or non-migratory bird is found, a 250-foot buffer shall be established around the nest until all young have fledged.

The proposed project areas have been historically used for agricultural purposes and are located adjacent to agricultural land uses. The intermittent drainage and ephemeral streams occurring within the proposed project areas could provide movement corridors for wildlife species. However, the proposed project would not impact these features in a manner that would substantially interfere with the movement of wildlife. The reservoir expansion would not drastically alter any of these features.

Waters of the U.S.

The term "waters of the U.S." is defined as:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce including any such waters.

"Wetlands" are defined as:

> Waters of the U.S. or isolated features that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

An informal assessment of jurisdictional wetlands and other "waters of the U.S." occurring within the proposed project site identified the reservoir, the unnamed intermittent stream, and the four ephemeral drainages tributary to this feature as being potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act. The drainages would also be subject to the jurisdiction of DFG pursuant to Sections 1600-1603 of the Fish and Game Code. As discussed above, the onsite drainages would receive buffers from the proposed development. The proposed project also does not propose the discharge of dredged or fill material into a water of the U.S.

The following permit terms, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978:

- *Prior to the start of construction, or diversion or use of water under this permit, Permittee shall obtain the appropriate permit from the U.S. Army Corps of Engineers (USACE) and file a copy with Division of Water Rights. If a permit from the USACE is not necessary for this permitted project, the Permittee shall provide the Division of Water Rights with a letter from the USACE affirming that a permit is not needed.*

- *If the project requires a permit from USACE, Permittee shall obtain Clean Water Act section 401 Water Quality Certification from the State Water Resources Control Board prior to the start of construction, or diversion or use of water under this permit.*

- *No work shall commence and no water shall be diverted, stored or used under this permit until a copy of a Lake or Streambed Alteration Agreement between the California Department of Fish and Game (DFG) and the Permittee is filed with the Division of Water Rights. Compliance with the terms and conditions of the agreement is the responsibility of the Permittee. If a Lake or Streambed Alteration Agreement is not necessary for this permitted project, the Permittee shall provide the Division of Water Rights a copy of a waiver signed by DFG.*

See the discussion of potential fishery impacts and mitigation in the Hydrology and Water Quality section.

With the incorporation of the proposed mitigation measures impacts to biological resources are expected to be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. Agricultural Resources. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☑

Agriculture and agricultural production are prevalent land uses in Sonoma County. The Sonoma County General Plan designates the project area as Land Extensive Agriculture, the purpose of which is described as follows:

> To enhance and protect lands best suited for permanent agricultural use and capable of relatively low production per acre of land; and to implement the provisions of the Land Extensive Agriculture land use category of the general plan and the policies of the Agricultural Resources Element[40].

The Agricultural Resources Element in the Sonoma County General Plan acknowledges the importance of agricultural production in and to Sonoma County:

> The purpose of the element is to establish policies to ensure the stability and productivity of the County's agricultural lands and industries. The element is intended to provide clear guidelines for decisions in agricultural areas. It is also intended to express policies, programs and measures that promote and protect the current and future needs of the agricultural industry. If future technology of the agriculture industry requires alternative and yet unforeseen policies and implementation mechanisms, those should be consistent with the County's commitment to encourage the maintenance of a healthy agriculture sector of the county's economy[41].

Under the proposed project, the project site would continue to be used for agricultural purposes and the proposed project would not result in the conversion of farmland to non-agricultural use.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. Noise. Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑

The Sonoma County General Plan identifies agricultural operations as a potentially significant source of community noise within Sonoma County[42]. Noise generated in the project site would consist of routine agricultural activities and would be similar to that already existing in the project vicinity. The project site is not located near noise sensitive areas or within two miles of an airport or airstrip.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Sonoma County General Plan

The project area lies within the Petaluma Planning Area identified within the Sonoma County General Plan, located in the southwestern portion of the county. Dominant natural features of this planning area include the Sonoma Mountains, the Petaluma River and marshes. The subject property and surrounding area consist of rolling hills and open grassland with scattered oak, eucalyptus and willow trees. Historically this area has been the production center for poultry and dairy products. The subject property has supported a dairy operation since the 1950s. While the poultry industry has declined, milk has been one of the county's leading agricultural commodities[43].

The Sonoma County General Plan Land Use Element and its policies guide growth and the development and use of land in Sonoma County through 2005. The Land Use Element of the general plan designates the proposed project area as Land Extensive Agriculture. Permitted land uses within this category include agricultural production, processing and services, as well as visitor serving uses, agricultural employee housing, other resource uses, and community service facilities[44].

The Land Use Element of the general plan provides the following goals and objectives for the protection of agricultural land.

> GOAL LU-8: Protect lands currently in agricultural production and lands with soils and other characteristics, which make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.
>
> Objective LU-8.1: Avoid conversion of lands currently used for agricultural production to non-agricultural use.
>
> Objective LU-8.2: Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.
>
> Objective LU-8.3: Agricultural lands not currently used for farming but which have soils or other characteristics which make them suitable for farming shall not be developed in a way that would preclude future agricultural use.
>
> Objective LU-8.4: Discourage uses in agricultural areas that are not compatible with long-term agricultural production.
>
> Objective LU-8.5: Support farming by permitting limited small-scale farm services and visitor serving uses in agricultural areas.

Sonoma County Zoning Ordinance

The project area is zoned as a Land Extensive Agriculture District. The Sonoma County Zoning Ordinance describes the intent of the Land Extensive Agriculture designation as follows:

> To enhance and protect lands best suited for permanent agricultural use and capable of relatively low production per acre of land; and to implement the provisions of the land extensive agriculture land use category of the general plan and the policies of the agricultural resources element[45].

Uses related to the proposed project that are allowed within the Land Extensive Agriculture designation, which do not require a use permit include raising, feeding, maintaining and breeding of farm animals on parcels exceeding two acres, and growing and harvesting of shrubs, plants, flowers, trees, vines, fruits, vegetables, hay, grain and similar food and fiber crops. Agricultural cultivation without a use permit should maintain the following setbacks:

- Fifty feet from the top of the bank of designated flatland riparian corridors; and
- Twenty-five feet from the top of the bank of designated upland riparian corridors.

Agricultural cultivation may be allowed within the setbacks upon approval of a management plan, which includes appropriate mitigations for potential erosion, bank stabilization and biotic impacts. This plan may be approved by the planning director or by use permit pursuant to Section 26-06-020(a).

Sonoma County Tree Protection Ordinance

The Sonoma County Tree Protection Ordinance, Article 88, Section 26-88-010 (m) of the Sonoma County Zoning Ordinance, states that projects should be designed to minimize the destruction of protected trees. The section also states that agricultural cultivation is exempt from this requirement[46].

Sonoma County Vineyard Erosion and Sediment Control Ordinance

See the discussion of the Vineyard Erosion and Sediment Control Ordinance in the Geology and Soils section.

The proposed project would not result in physical barriers that would divide an established community.

Though not currently planned, the potential future development of the 300-acre proposed POU would include clearing of grassland and limited grading for the installation of vineyard irrigation and/or frost protection. As discussed in the Geology and Soils section, the development of the

vineyard would occur in areas where soils have a slight to moderate erosion potential. The areas to be developed have a slope of less than 30 percent. Development of the proposed project would be required to comply with the Sonoma County Vineyard Erosion and Sediment Control Ordinance.

Adherence to the measures contained within the Sonoma County Vineyard Erosion and Sediment Control Ordinance, discussed in the Geology and Soils section above, is expected to reduce potential soil erosion impacts to a less than significant level.

No habitat conservation plans or natural community conservation plans currently exist for the project area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

The State of California classifies mineral lands throughout the state and has designated certain mineral bearing areas as being of regional significance. Local agencies must adopt mineral management policies that recognize mineral information provided by the state, assist in the management of land use that affect areas of statewide and regional significance, and emphasize the conservation and development of identified mineral deposits[47].

Various minerals have been mined in Sonoma County during the past century, however, aggregate products are now the dominant commercial minerals. Sonoma County has adopted the Aggregate Resources Management (ARM) plan for obtaining future supplies of aggregate material. This plan serves as the state-mandated mineral management policy for the county. During the process of adoption of the plan, Sonoma County considered the aggregate resource areas subsequently classified as MRZ-2 by the State Geologist. The project site is not located in a mineral resource deposit area[48].

No mineral resources are located near the project site as mapped by the Sonoma County General Plan. No impacts to mineral resources would occur as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐

Hazardous materials found on the project site include a 550-gallon capacity diesel tank that regularly stores approximately 200 gallons of diesel, and six manure pits. The manure is applied as a fertilizer to the pasture annually. These items, when stored and used according to regulatory standards, do not pose significant hazards.

A search of government environmental records did not reveal any known hazardous materials sites within the project site; the project site is not listed pursuant to Government Code §65962.5. The Sonoma County Transfer Station disposal facility is located approximately 0.5 miles from the project site on Stage Gulch Road. The facility was found in the Solid Waste Information System database as reporting emergency releases into the soil in 1987[49].

Hazardous materials that would be used during the construction and operation of the proposed project would be limited to common petroleum and agricultural products. When properly used, these products do not present a significant hazard.

The proposed project is not located within 0.25 miles of any existing or proposed schools, or near an airport or airstrip. The proposed project does not include features that would interfere with an adopted emergency plan.

The proposed project is located in a rural area that contains substantial fuels (e.g. grasses, shrubs, trees) that are susceptible to wildland fire. Construction of project features, including ground clearing, may introduce potential sources of fire. Equipment used during construction activities may also create sparks, which could ignite dry grass or other vegetation on the project site. This risk, which is similar to that found at other rural construction sites, is considered to be a less than significant impact if standard safety precautions are taken. The proposed project would implement Best Management Practices (BMPs) (e.g., clearing construction areas of combustible material; ensuring spark arresters are in good working order and are installed on all equipment during project construction; and ensuring that there is adequate fire fighting tools onsite) during project construction.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Population and Housing. Would the project:				
a) Induce substantial population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

The proposed project would not directly or indirectly induce substantial growth in the project area and would not displace people or housing.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. Transportation and Circulation. Would The Project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (*i.e.*, result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☑	☐
b) Substantially increase hazards due to a design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?	☐	☐	☐	☑
c) Result in inadequate emergency access?	☐	☐	☐	☑
d) Result in inadequate parking capacity?	☐	☐	☐	☑
e) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
f) Conflict with adopted policies supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks)?	☐	☐	☐	☑
g) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑

Vehicular access to the project site is provided by Stage Gulch Road, a two-lane road that is part of State Route 116 in southern Sonoma County. In 1984, the estimated daily traffic along State Route 116 in the vicinity of the project site was between 8,500 and 9,200 vehicles per day. The Sonoma County General Plan projected that the average daily traffic in the year 2005 would be between 13,000 and 17,000 vehicles per day along this corridor[50].

A negligible increase in traffic is anticipated from the implementation of the proposed project. The increased traffic would primarily be temporary, caused mainly by construction crews and transportation of materials to and from the construction areas. This increase is expected to be slight and would not represent a significant impact to transportation or circulation. No substantial new impediments to emergency access or incompatible uses are anticipated. The proposed project is not expected to result in inadequate parking capacity, or conflict with adopted alternative transportation policies, plans, or programs.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Public Services. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of these public services:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Public services include fire and police protection, schools, parks, and other public facilities. The Sonoma Department of Emergency Services' Fire Division provides fire protection in the project area. The Sonoma County Sheriff's Department provides police protection. The Sonoma Valley Unified School District and Cotati-Rohnert Park Unified School District provide K to 12th grade education to the east and northwest, respectively, of the project area, and Petaluma Joint Union High provides 7th to12th grade education in the Petaluma area.

The proposed project would result in the continued use of the project site for agricultural purposes and would not impact public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐	☐
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

The project site is not served by public water and wastewater services. Residences in the project area rely on private wells for domestic water supply and private septic systems for wastewater treatment. The Central Landfill in Petaluma is located closest to the project site.

No additional wastewater, stormwater drainage or landfill facilities would be required as part of the proposed project. Additional water supplies, such as connection to public water supply, would not be required.

See the discussion of potential water supply impacts and mitigation in the Hydrology and Water Quality section.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

The project area contains scenic resources characteristic of Sonoma County in general, including mountainous landscapes, agricultural and pastoral settings, and riparian areas. The existing agricultural use of the project site is consistent with rural aesthetic quality of the project area.

The proposed project is consistent with the rural aesthetic quality of the project area. The proposed project would not introduce a new source of substantial light or glare.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Tom Origer and Associates conducted a cultural resources study for a portion of the project area in November 2000[51]. Origer and Associates conducted a supplemental survey of the remaining project area in September 2001[52]. The cultural resources studies characterize past uses of the project area, summarize the results of field surveys and archival records results, and provide resource treatment recommendations.

A review of ethnographic literature and maps, including archival research at the Northwest Information Center, Sonoma State University, found that there are no recorded cultural resources and no ethnographic sites reported within the study area. Historical maps revealed no 19th or early to mid 20th century buildings or structures within the project area.

During the 2001 field survey, one isolated obsidian flake was found within the project area. It was a by-product of pre-historic tool manufacturing and was indicative of casual Native American use of the project area. No significant cultural resources were found within the project area.

However, there is the possibility that buried archaeological deposits could be present, and accidental discovery could occur.

The following permit term, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 30978:

- *Should any buried archaeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archaeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Chief of the Division of Water Rights shall be notified of the discovery and a professional archaeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Chief of the Division of Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Chief of the Division of Water Rights.*

There is also the possibility that an unanticipated discovery of human remains could occur. The following permit term, substantially as follows, shall be included in any permit or license issued pursuant to Application 30978:

- *If human remains are encountered, then the Permittee/Licensee shall comply with section 15064.5 (e) (1) of the CEQA Guidelines and the Public Resources Code section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission within 24 hours. The Native American Heritage Commission will identify the person or persons believed to be the most likely descendants from the deceased Native American. The most likely descendent may make recommendations regarding the means of treating or disposing of the remains with appropriate dignity. Project-related ground*

disturbance, in the vicinity of the find, shall not resume until the process detailed under section 15064.5 (e) has been completed and evidence of completion has been submitted to the Chief of the Division of Water Rights.

The proposed project could result in potentially significant impacts to cultural resources. However, with implementation of the identified mitigation measures, potential impacts would be reduced to a less than significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Sonoma County has various types of parklands, including federal recreation areas and state parks, regional parks, community parks and neighborhood parks. Recreational opportunities include fishing, camping, swimming, picnicking, horseback riding, bicycling, hiking or walking.

The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The proposed project also does not include recreation facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Mandatory Findings of Significance.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☑	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

As discussed in the preceding sections, the proposed project has a potential to degrade the quality of the environment by adversely impacting geology and soils, air quality, hydrology and water quality, biological resources, utilities and service systems, and cultural resources. However, with implementation of the identified permit terms, potential impacts would be reduced to a less than significant level.

As outlined in the preceding sections, the proposed project has a potential to result in adverse environmental impacts. These impacts in combination with the impacts of other past, present, and future projects, could contribute to cumulatively significant effects on the environment. However, with implementation of the identified permit terms, the proposed project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts.

As discussed in the preceding sections, the proposed project has a potential to result in adverse direct or indirect effects on human beings. However, with implementation of the identified permit terms, the proposed project would not result in substantial adverse direct or indirect effects on human beings and impacts would be considered less than significant.

III. DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION will be prepared.	☑
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	☐

Prepared By:

3-17-08

David Zweig — Date
Analytical Environmental Services

Reviewed By:

3-18-08

Eric Oppenheimer, Chief — Date
Russian River Watershed Unit

Reviewed By:

3-19-08

Steven Herrera, Chief — Date
Water Rights Permitting Section

(Form updated 3/28/00)

Authority: Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.1 through 21083.3, 21083.6 through 21083.9, 21084.1, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. App. 3d 1337 (1990).

IV. INFORMATION SOURCES

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